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BALL MUM GUIDE

WITH YEAR AROUND SCHEDULES

1953

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U. S. Department of Agriculture



Complete Carnation Cutting List

Geo. J. Ball

WEST CHICAGO

ILLINOIS

New Varieties for 1953

LARGE FLOWERING STANDARDS

WHITE

Giant Betsy Ross (Yoder). Nov. 5. Large flowered sport of Betsy Ross. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Crystal Queen (Yoder). Nov. 10. Sport of Orchid Queen.

YELLOW

Moribana (DePetris). Oct. 25. Yellow spider. Recommended for June flowering but tall and will require 12 weeks short day response treatment.

Gold Lace (Yoder). Nov. 1. Golden yellow sport of Yellow Lace. Tubes are straight.

Hooked Lace (Yoder). Nov. 1. Sport of Yellow Lace. The tube ends open and incurve, presenting an attractive hooked appearance.

Imp. Indianapolis Yellow (Yoder). Nov. 5. Improved, slightly deeper yellow selection of Indianapolis Yellow.

Yellow Marketeer (Johannes) Nov. 18. Yellow sport selected from Marketeer.

Cream Mefo (Yoder). Nov. 20. Cream yellow selection from Mefo. Primarily of value in the December thru May flowering program. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Yellow Rayonnante. Nov. 5. Yellow sport of Rayonnante. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Mrs. Calkins. Nov. 25. Large, deep yellow standard, partial incurve. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

BRONZE AND RED

Dalwin (DePetris). Oct. 25. Large, light bronze spider. The quills are compactly arranged with small barbs. Shades well in the cloth house.

Red Glitters. Oct. 28. Sport of Glitters, 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Royal Bronze. Nov. 1. Large orange bronze disbud. Short, compact growth habit.

Dark Indianapolis Bronze (Calvert). Nov. 5. Dark reddish bronze sport of Indianapolis Bronze.

PINK

Lavender Queen (Yoder). Nov. 10. Sport of Orchid Queen. Flower more compact and color more intense than that of Dark Orchid Queen. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

POMPONS, SINGLES and ANEMONES

WHITE

Shooting Star (Baur & Steinkamp). Oct. 25. Intermediate single, clear white, productive, and possesses good form. Free growth. Useful in early shading programs. 50 cuttings for **\$4.50**; 100-250, **\$8.55** per 100; 300-450, **\$8.10** per 100; 500-950, **\$7.65** per 100; 1000-2450, **\$7.20** per 100; 2500-up, **\$6.75** per 100.

Illini Igloo (Univ. of Ill.). Nov. 10. Int. white Pompon with creamy center; exceptional substance, very productive, good for outdoor shading.

White Lady (Julius Roehrs Co.). Nov. 25. White sport of Beautiful Lady.

Crystal Valencia (DePetris). Nov. 28. A white Valencia which does not have the tendency toward pinking at cool temperatures.

Carrara (DePetris). Dec. 8. Int. pure white decorative. Clean growth, fine spray formation. Has promise for use in the lighting program in December, January and February.

Illini Snowbound (Univ. of Ill.). Jan. 5. Large informal white decorative with cream center. Responds well to partial disbudding. Useful primarily for the natural crop.

YELLOW

Yellow Halo (Yoder). Nov. 1. Sport. Intermediate single deep lemon yellow. Recommended for April 15 thru November 1 greenhouse culture.

Tacoma (DePetris). Nov. 15. Large golden yellow Pompon with very broad petals. Excellent form and growth habit. One of the best yellowish bronze Pompons for mid-November.

PRICES above varieties except where noted: 50 cuttings for **\$5.00**; 100-250 cuttings, **\$9.50** per 100; 300-450 cuttings, **\$9.00** per 100; 500-950 cuttings, **\$8.50** per 100; 1000-2450 cuttings, **\$8.00** per 100; 2500 or more cuttings, **\$7.50** per 100.

YELLOW—Continued

D.C.P. (Paschke). Oct. 1. Small yellow pompon. Very dwarf, compact, and prolific. Best suited for border work in outdoor gardens and pot plants. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Moondrift (Yoder). Oct. 20. Intermediate cream yellow single. Excellent growth and production. Recommended for April 15 to June 15 and September 15 to October 20 flowering. Suggested for late cloth house.

Ivory Sea Gull. Nov. 1. Sport of Sea Gull. Intermediate ivory Pompon. 50 cuttings, **\$3.00**; 100-250, **\$5.70** per 100; 300-450, **\$5.40** per 100; 500-950, **\$5.10** per 100; 1000-2450, **\$4.80** per 100; 2500-up, **\$4.50** per 100.

Yellow Nagona (California Yellow Mensa). Nov. 10. Sport of Nagona. Int. lemon yellow single. Short, semi-vegetative habit. Well known and widely grown. Requires 1 week additional time over its recommended long day treatment to obtain adequate stem length. 50 cuttings, **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Yellow Highbrow (Yoder). Nov. 20. Sport. Int. golden yellow Pompon, identical in habit with Highbrow. Very useful in late (September 15 and on) cloth house. Recommend greenhouse flowering period October 15-December 15 and March 1 thru April.

Illini Sunspot. Nov. 20. Large deep yellow Pompon. Responds well to disbudding; good production. Suggested for late cloth house.

Illini Sunny (Univ. of Ill.). Nov. 25. Int. deep yellow Pompon. Resembles Yellow Cordova with harder flower and no tendency toward blind growth. Excellent production and good growth habit.

Goldenrod (DePetris). Nov. 25. Full round and solid yellow Pompon with exceptional substance and keeping qualities. Can be kept on the plant for a long time without impairing the color, substance or form of the flower. Gives a heavy production of high quality sprays. 50 cuttings for **\$4.50**; 100-250, **\$8.55** per 100; 300-450, **\$8.10** per 100; 500-950, **\$7.65** per 100; 1000-2450, **\$7.20** per 100; 2500-up, **\$6.75** per 100.

Yellow Galaxy (Ahern). Dec. 1. Sport of Galaxy. Deep lemon yellow intermediate single possessing the wide flat petal so attractive in its parent. Useful from October 15 thru full winter program.

Yellow Spangles (Yoder). Dec. 5. Deep lemon yellow sport of Spangles.

Cream Snowcrest (H. R. Frank). Dec. 15. Cream yellow sport of Snowcrest. A soft color, very useful December thru February.

Gold Seal (DePetris). Dec. 20. Int. lemon yellow single. Very heavy production. Recommended for winter flowering. More productive than either Sunkist or Cinderella.

Illini Yellow Snowbound (Univ. of Ill.). Jan. 5. A yellow sport of Illini Snowbound.

BRONZE AND RED

Bronze Mary McArthur. Oct. 23. Orange bronze sport of Mary McArthur. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Imp. Bronze Daisy (Katoka Red). Nov. 1. Intermediate bronze single. Growth habit similar to Bronze Daisy. Color is more intense and vivid than original, holding better under high temperature conditions. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Imp. Red Daisy (Adachi Red). Nov. 1. An improved selection of Red Daisy. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Dark-Bronze Minstrel. Dec. 13. Reddish bronze sport of Bronze Minstrel.

Comanche (Baur-Steinkamp). Nov. 2. Int. Pompon, reddish bronze. Color and form improve Sparkler. Habit and production resemble Gold Coast. Recommended for any shading and flowering program that suits Gold Coast. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Illini Tangier (Univ. of Ill.). Nov. 12. Large rusty red-bronze decorative. Color holds well during summer for a bronze.

Wanakah (Sklood). Nov. 25. Coral salmon sport of Hasegawa Pink. Good production and growth habit of the original.

Bronze Enchantress. Dec. 5. Orange bronze sport of Enchantress. 50 cuttings for **\$3.25**; 100-250, **\$6.15** per 100; 300-450, **\$5.85** per 100; 500-950, **\$5.50** per 100; 1000-2450, **\$5.20** per 100; 2500-up, **\$4.85** per 100.

PRICES above varieties except where noted: 50 cuttings for **\$5.00**; 100-250 cuttings, **\$9.50** per 100; 300-450 cuttings, **\$9.00** per 100; 500-950 cuttings, **\$8.50** per 100; 1000-2450 cuttings, **\$8.00** per 100; 2500 or more cuttings, **\$7.50** per 100.

PINK

Ponca. (Univ. of Neb.). Oct. 10. Small decorative. Deep lavender pink. Compact and prolific. Useful for gardens and pot plants. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Ronnie. Oct. 12. Small dark lavender button Pompon. Vigorous and productive. Striking color and form for garden culture. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Rainbow (Yoder). Nov. 1. Small coral pink single. New and beautiful color. Vigorous and productive. Suggested season April-June 15 and September-November 1.

Arbutus (DePetris). November 1. Small shrimp pink Pompon. Good growth and production. A pleasing pastel color and high quality flower for the shading program.

Almega. (DePetris). Nov. 20. Large light lavender pink Pompons. Form, color and substance excellent. Average production, vigorous but tall growth.

Dark Long Island Beauty (Leisy). Nov. 20. An intensified color selection of Pink L.I. Beauty.

Evening Star (Baur & Steinkamp). Nov. 20. Small anemone, very deep lavender. Productive growth. Responds to shade well. A novelty color. 50 cuttings for **\$4.50**; 100-250, **\$8.55** per 100; 300-450, **\$8.10** per 100; 500-950, **\$7.65** per 100; 1000-2450, **\$7.20** per 100; 2500-up, **\$6.75** per 100.

Dubonnet Valencia (Southern Floral). Nov. 28. Dubonnet sport of Valencia. This variety improves Orchid Valencia with a brighter more intense color. Valuable for shading and delay programs.

Imp. Dark Supreme. Dec. 10. Improved sport of Dark Pink Supreme. This selection possesses a larger, flatter flower plus color intensification. All Supremes are best grown cool. 50 cuttings for **\$3.50**; 100-250, **\$6.65** per 100; 300-450, **\$6.30** per 100; 500-950, **\$5.95** per 100; 1000-2450, **\$5.60** per 100; 2500-up, **\$5.25** per 100.

Light Pink Minstrel (Yoder). Dec. 13. Shell pink sport of Minstrel.

Serrated Riviera (Mikkelsen). Dec. 15. Saw-tooth petalled sport of Riviera, somewhat resembling a Carnation in form.

Rose Medallion (Yoder). Dec. 20. Rose pink sport of Medallion.

PRICES above varieties except where noted: 50 cuttings for **\$5.00**; 100-250 cuttings, **\$9.50** per 100; 300-450 cuttings, **\$9.00** per 100; 500-950 cuttings, **\$8.50** per 100; 1000-2450 cuttings, **\$8.00** per 100; 2500 or more cuttings, **\$7.50** per 100.

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INSTRUCTIONS FOR ORDERING

The minimum total order that can be accepted is 500 cuttings.

Fifty of each variety is the minimum that can be supplied.

More than 50 of a variety must be in multiples of 50.

Orders must be marked with a definite delivery date, such as May 10th, June 1st, etc. Orders marked "Early Delivery," "Deliver when ready," "Spring Delivery," are too indefinite.

In writing your order, please use special alphabetically arranged order blanks enclosed with this catalog.

SUBSTITUTIONS

We will substitute varieties as good or better for any items not listed in this catalog unless order is marked **No Substitutions**.

SHIPPING INFORMATION

Special shipping instructions and address if different from your regular mail address should be shown on your order.

All cuttings are shipped Railway Express, Air Freight or Air Express, collect. If you have any preference, designate on your order; otherwise our shippers will use their best judgment. Cuttings are in perfect condition when they are accepted by the transportation company. Therefore, if there is any damage enroute from being broken, heated, or frozen, **CALL YOUR EXPRESS or AIR FREIGHT AGENT** to inspect the shipment upon arrival, marking on express receipt or bill of lading the condition of the package and amount of damage, etc. **YOU MUST FILE CLAIMS**, as our responsibility ceases when the carrier accepts shipment. We cannot be responsible for the safe arrival of your cuttings.

LIMITATION OF WARRANTY

We, Geo. J. Ball, Inc., warrant, to the extent of the purchase price, that seeds, plants or bulbs sold are as described on the container, within recognized tolerances. We give no other or further warranty, express or implied.

IMPORTANT: ABSOLUTELY NO CHANGES ON YOUR ORDER CAN BE ACCEPTED WITHIN 30 DAYS OF DELIVERY DATE.

Large Flowering Standards

Types are abbreviated as follows: Inc.—Incurved; Ref.—Reflexed. Size of flower is indicated by S—Small; M—Medium; L—Large. Pinching and flowering dates given here are for normal flowering without shading or lights.

Note carefully instructions for ordering on page 2. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

WHITE

Best Whites for August, **Betsy Ross**; September, ***Betsy Ross**; October, ***Indianapolis White**; November, **Indianapolis White**, **Marketeer**; Thanksgiving, **Chattanooga**; December, **December Glory**; Christmas, **Smith's Late White**.

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
8-Week Varieties				
Silver Sheen	July 8	Oct. 20	Med. Inc.	\$3.00
White Chief	July 8	Oct. 20	Med. Inc. Sport.	3.50
Christina	July 14	Oct. 23	S. Inc.	3.50
9-Week Varieties				
Ambassador	July 14	Oct. 25	Cream white. L. Inc.	3.00
Granite State	July 12	Oct. 25	Pure white. S. Inc.	3.00
Albatross	July 14	Nov. 1	Pure white. M. Inc.	3.00
Snow White	July 14	Nov. 1	L. Inc.	3.00
Wilson's White	July 16	Nov. 1	M. Inc.	4.50
10-Week Varieties				
Betsy Ross	July 16	Nov. 5	Ivory white. L. Inc.	3.00
Giant Betsy Ross	July 16	Nov. 5	Sport of Betsy Ross	3.50
Indianapolis White	July 20	Nov. 5	M. Inc.	3.00
Richard Mandel	July 19	Nov. 5	S. Inc.	3.00
Crystal Queen (New)	July 20	Nov. 10	Improved Jean Elizabeth	5.00
Jean Elizabeth	July 20	Nov. 10	Large Semi-Inc.	3.25
Monument	July 20	Nov. 10	Ivory white. M. Inc.	3.00
White Pockett	July 20	Nov. 10	L. Inc.	3.25
11-Week Varieties				
Sterling	July 25	Nov. 15	White. L. Inc.	3.50
Marketeer	July 25	Nov. 18	M. Inc.	3.00
Indiana Market	July 24	Nov. 20	M. Inc.	3.50
Mefo	July 24	Nov. 20	Ivory white, L. Inc.	3.00
White Frick	July 24	Nov. 20	White suffused pink. M. Inc.	3.00
12-Week Varieties				
Chattanooga	July 28	Nov. 25	L. Inc.	3.00
December Glory	July 31	Dec. 1	Ivory white. M. Inc.	3.00
Margaret Moeller	July 31	Dec. 3	White. M. Inc.	3.00
13-Week Varieties				
December White	July 31	Dec. 5	M. Inc.	3.25
White Mistletoe	July 31	Dec. 5	Med. Inc.	3.25
Snowline	Aug. 5	Dec. 10	Showy white flower. L. Inc.	4.00
Smith's White	Aug. 4	Dec. 13	Ivory white. M. Semi-Inc.	3.25

*Starred varieties must be shaded to flower at this time.

IMPORTANT: ABSOLUTELY NO CHANGES ON YOUR ORDER CAN BE ACCEPTED WITHIN 30 DAYS OF DELIVERY DATE.

Large Flowering Standards

YELLOW

Best yellows for August, ***Good News**; September, ***Good News**; October, ***Indianapolis Yellow**; November, **Indianapolis Yellow**, **Yellow Mefo**; Thanksgiving, **Yellow Chattanooga**; December, **Golden Mrs. Ross**; Christmas, **Tobin's Yellow**.

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
8-Week Varieties				
Harvest Golden	July 10	Oct. 10	Deep gold. Med. Inc.	\$3.50
Celestra	July 8	Oct. 15	Lemon yellow. S. Semi-Inc.	3.00
Gold Lode	July 8	Oct. 15	Golden yellow. M. Ref.	3.00
Butterball	July 8	Oct. 20	M. Inc.	3.50
Mrs. Kidder	July 8	Oct. 20	Deep lemon yellow. M. Inc.	2.75
Blazing Gold	July 14	Oct. 23	Deep gold. M. Semi-Inc.	3.00
9-Week Varieties				
Smith's Superlative	July 14	Oct. 25	Golden yellow. M. Semi-Inc.	3.25
Sunglow	July 14	Oct. 25	Golden yellow. L. Inc.	2.75
Yellow Ambassador	July 14	Oct. 25	Light lemon yellow. L. Inc.	3.00
Yellow Bergen	July 14	Oct. 25	Med. Inc.	3.25
Golden Glory	July 14	Nov. 1	Golden yellow. M. Inc.	3.25
Good News	July 14	Nov. 1	Deep lemon yellow. M. Inc.	3.25
10-Week Varieties				
Dark Indianapolis Yellow	July 19	Nov. 5	For pot plant use only.	3.50
Imp. Indianapolis Yellow. (New) ..	July 20	Nov. 5	Selection of Ind. Yellow	5.00
Indianapolis Yellow	July 20	Nov. 5	Lemon yellow. M. Inc.	3.00
Jamboree	July 19	Nov. 10	Golden yellow. M. Inc.	4.00
Yellow Beauty	July 19	Nov. 10	Golden yellow. S. Inc.	3.25
Yellow Monument	July 22	Nov. 10	Light lemon yellow. L. Inc.	3.00
Yellow Pockett	July 19	Nov. 10	L. Inc.	3.25
Yellow Queen	July 19	Nov. 10	Sport of Orchid Queen. L. Inc.	3.25
Honey Dew	July 22	Nov. 12	Lemon yellow. M. Inc.	3.25
11-Week Varieties				
Yellow Marketeer (New)	July 23	Nov. 18	Sport of Marketeer	5.00
Bonnaffon Deluxe	July 25	Nov. 20	Golden yellow. S. Inc.	2.75
Cream Mefo	July 25	Nov. 20	Sport of Mefo	3.50
Friendly Rival	July 25	Nov. 20	Deep chrome yellow. M. Inc.	3.00
Purdue	July 25	Nov. 20	Lemon yellow. M. Inc.	3.50
Yellow Mefo	July 25	Nov. 20	Lemon yellow. L. Inc.	3.00
Harvester	July 24	Nov. 23	Deep canary yellow. M. Inc.	3.00
Marie DePetris	July 24	Nov. 23	Deep golden yellow. M. Inc.	3.00
12-Week Varieties				
Golden Pearson	July 28	Nov. 25	Light golden yellow. M. Inc.	3.00
Mrs. Calkins	July 28	Nov. 25	Golden yellow. M. Semi-Inc.	3.50
Sungold	July 28	Nov. 25	Lemon yellow. M. Inc.	3.00
Yellow Chattanooga	July 28	Nov. 25	L. Inc.	3.00
Golden Mrs. Ross	July 30	Dec. 3	Golden yellow. L. Inc.	3.00
Yellow Moeller	July 31	Dec. 3	Sport of Margaret Moeller.	3.50
13-Week Varieties				
Chalice	Aug. 1	Dec. 5	M. Inc.	4.50
Golden Mistletoe	Aug. 1	Dec. 5	Light golden yellow. M. Inc.	3.25
Dauntless	Aug. 4	Dec. 13	Golden yellow. Semi-Inc.	3.50
Meteore	Aug. 4	Dec. 13	Lemon yellow. M. Semi-Inc.	3.25
Tobin's Yellow	Aug. 4	Dec. 13	Light lemon. M. Semi-Inc.	3.25

*Starred varieties must be shaded to flower at this time.

Large Flowering Standards

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Note carefully instructions for ordering on page 2. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

BRONZE AND RED

Best bronze and reds for August, ***Detroit News**; September, ***Detroit News**; October, ***Indianapolis Bronze**; November, **Indianapolis Bronze**, Mrs. Roy; Thanksgiving, **Gladys Pearson**; December, **Bronze Mistletoe**.

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
8-Week Varieties				
Amber Bright	July 15	Oct. 15	Amber bronze. M. Inc.	\$3.50
Mayford's Triumph	July 15	Oct. 15	Dark amber. M. Inc.	3.50
9-Week Varieties				
Hilda Bergen	July 14	Oct. 25	Dark reddish bronze. M. Inc.	3.25
Glitters	July 16	Oct. 28	Deep reddish orange. M. Ref.	3.25
Red Glitters	July 16	Oct. 28	Sport of Glitters	3.50
Apricot Queen	July 16	Nov. 1	Orange-bronze. M. Inc.	3.25
Ivanhoe	July 16	Nov. 1	Reddish bronze. S. Inc.	3.25
Detroit News	July 16	Nov. 1	Reddish bronze. M. Inc.	3.25
Royal Bronze (New)	July 16	Nov. 1	Orange bronze. S. Inc.	5.00
10-Week Varieties				
Dark Indianapolis Bronze	July 20	Nov. 5	Sport of Ind. Bronze. M. Inc.	5.00
Indianapolis Bronze	July 20	Nov. 5	Buff bronze. M. Inc.	3.00
Indianapolis Golden Bronze	July 19	Nov. 5	Quilled. For pot plant use only.	4.50
Anaconda	July 20	Nov. 8	Deep coppery red. L. Inc.	3.00
Bronze Orchid Queen	July 20	Nov. 10	Apricot buff. L. Inc.	3.25
Mrs. Stahelin	July 20	Nov. 10	Reddish bronze. M. Inc.	3.50
Oakdale	July 20	Nov. 10	Buff bronze. M. Inc.	4.00
Garnet King	July 24	Nov. 13	Dark red. M. Ref.	3.25
Mrs. Roy	July 20	Nov. 13	Red. M. Inc.	3.25
Bronze Frick	July 28	Nov. 20	Light bronze. M. Inc.	3.50
12-Week Varieties				
Gladys Pearson	July 28	Nov. 25	Light buff bronze. M. Inc.	3.00
Oak Leaf (Bronze Pearson)	July 28	Nov. 25	M. Inc.	3.00
Muto's Crimson	July 28	Dec. 1	Red. M. Semi-Inc.	3.50
13-Week Varieties				
Bronze Mistletoe	July 28	Dec. 5	Buff bronze. M. Inc.	3.25

PINK

Best pinks for September, **Indianapolis Pink**; October, ***Orchid Queen**; November, **Orchid Queen**; Thanksgiving, **Helen Frick**.

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
8-Week Varieties				
Pink Chief	July 8	Oct. 15	Lavender. M. Inc.	\$3.00
Major Bowes	July 15	Oct. 15	Deep lavender. M. Inc.	3.00
9-Week Varieties				
Sugar Plum	July 14	Nov. 1	Hard pink mum. M. Inc.	4.00

*Starred varieties must be shaded to flower at this time.

Large Flowering Standards

PINK—Continued

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
10-Week Varieties				
Indianapolis Pink	July 20	Nov. 5	Deep lavender. M. Inc.	\$3.00
J. W. Prince	July 20	Nov. 5	Lavender. M. Inc.	3.25
Dark Orchid Queen	July 20	Nov. 10	Deep pink. L. Inc.	3.25
Lavender Queen	July 20	Nov. 10	Sport of Orchid Queen.	3.50
Orchid Queen	July 20	Nov. 10	Orchid pink. Semi-Inc.	3.25
Pink Pockett	July 19	Nov. 10	Lavender. L. Inc.	3.25
Queen of Pinks	July 19	Nov. 10	Lavender. S. Inc.	3.00
11-Week Varieties				
Aristocrat	July 22	Nov. 20	Deep lavender. L. Inc.	3.25
Helen Frick	July 28	Nov. 20	Rose pink. M. Inc.	3.00
Rose Delight	July 25	Nov. 20	Deep rose. M. Inc.	3.50
Edwin Seidewitz	July 28	Nov. 23	Lavender. M. Inc.	3.00
Thanksgiving Pink	July 24	Nov. 23	Deep pink. M. Ref.	3.00
13-Week Varieties				
Pink Mistletoe	Aug. 1	Dec. 5	Lavender. M. Inc.	3.25

Spider Varieties

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
9-Week Varieties				
Dalwin (New)	July 14	Oct. 25	Light bronze	\$5.00
Moribana (New)	July 14	Oct. 25	Yellow	5.00
Gold Lace (New)	July 14	Nov. 1	Improved Yellow Lace.	5.00
Hooked Yellow Lace (New)	July 14	Nov. 1	Yellow Lace with hooked petals	5.00
Kay Tashima	July 14	Nov. 1	White	3.50
Mary Garden	July 14	Nov. 1	Pink	4.00
Mrs. R. A. Walker	July 14	Nov. 1	Deep lavender	3.50
Queen's Lace	July 14	Nov. 1	White	3.50
Yellow Lace	July 14	Nov. 1	Yellow sport of Queen's Lace	3.50
10-Week Varieties				
Gena Harwood	July 19	Nov. 5	Buff bronze	3.50
Mamoru	July 19	Nov. 5	Buff bronze	3.00
Nomaga	July 19	Nov. 5	Bronze	4.50
Rayonnante	July 19	Nov. 5	Pink	3.25
Sue Sally Jones	July 19	Nov. 5	Deep lemon yellow	3.50
Waikiki	July 19	Nov. 5	Apricot bronze	3.50
White Rayonnante	July 19	Nov. 5	White	3.25
Yellow Rayonnante	July 19	Nov. 5	Yellow	3.50
Peggy Hoover	July 20	Nov. 10	Pink	3.50
11-Week Varieties				
Lorraine	July 24	Nov. 15	Yellow	3.50

MINIMUM ORDER 500 CUTTINGS, MINIMUM QUANTITY FURNISHED OF ANY ONE VARIETY, 50 CUTTINGS.

Pompons, Singles and Anemones

Types are abbreviated as follows. Pom.—Pompon; Dec.—Decorative; Sgl.—Single; Anem.—Anemone. Size of flower is indicated by S—Small; M—Medium; L—Large. Pinching and flowering dates given here are for normal flowering without shading or lights.

Note carefully instructions for ordering on page 2. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

WHITE

Best white for August, ***Pinocchio**; September, ***Pinocchio**; October, ***Little America**, **Pinocchio**; November, **Sea Gull**, **Little America**; Thanksgiving, **Priscilla**; December, **Silversmith**.

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
7-Week Varieties				
September Morn.	June 25	Oct. 1	White. M. Sgl.	\$3.50
White Wonder	June 25	Oct. 1	M. Pom.	3.00
Chris. Columbus	June 30	Oct. 5	M. Dec.	3.50
Avalanche	June 30	Oct. 5	Snow white. Dec.	3.25
White Cloud	June 30	Oct. 5	L. Dec.	3.50
Horizon	June 30	Oct. 5	Pure white. M. Pom.	4.50
Classic	July 5	Oct. 10	S. Semi-formal Pom.	4.00
Maestro	July 4	Oct. 10	Med. Pom. Dwarf, compact 18-inch growth.	4.00
Renown	July 4	Oct. 10	White daisy	4.00
Silverplate	July 8	Oct. 12	M. Dec.	4.00
8-Week Varieties				
California White Daisy	July 14	Oct. 15	(Kimoto's White). Sport	3.50
Irene	July 10	Oct. 15	S. Pom.	3.00
Norona	July 10	Oct. 15	S. Pom.	4.50
Silver Ball	July 10	Oct. 15	L. Pom.	2.75
Minong	July 8	Oct. 20	S. Pom.	2.75
Pristine	July 8	Oct. 20	Pure white. M. Pom.	3.50
9-Week Varieties				
Cotton Top	July 14	Oct. 25	Pure white. S. Pom.	3.00
Keepsake	July 15	Oct. 25	Cream white. M. Pom.	4.50
Pinocchio	July 15	Oct. 25	S. Pom.	3.00
Popcorn	July 14	Oct. 25	White. M. Pom.	3.50
Shooting Star	July 15	Oct. 25	M. Single	4.50
Songster	July 14	Oct. 25	M. Pom.	4.00
White Popcorn	July 14	Oct. 25	Cream white sport of Popcorn	4.50
Arcadia	July 14	Oct. 28	M. Pom.	3.00
Halo	July 14	Nov. 1	Early white daisy.	4.00
Seagull	July 14	Nov. 1	Cream white. M. Pom.	3.00
White Doty	July 14	Nov. 1	Ivory white. L. Pom.	3.00

*Starred varieties must be shaded to flower at this time.

THIS TABLE INDICATES PRICES FOR MORE THAN 50 OF A VARIETY ON ONE SHIPMENT

50 Only	100-250 Per 100	300-450 Per 100	500-950 Per 100	1000-2450 Per 100	2500-up Per 100
\$2.75	\$5.20	\$4.95	\$4.65	\$4.40	\$4.10
3.00	5.70	5.40	5.10	4.80	4.50
3.25	6.15	5.85	5.50	5.20	4.85
3.50	6.65	6.30	5.95	5.60	5.25
4.00	7.60	7.20	6.80	6.40	6.00
4.50	8.55	8.10	7.65	7.20	6.75
5.00	9.50	9.00	8.50	8.00	7.50
6.25	12.00	11.50	11.00	10.50	10.00
7.50	14.50	14.00	13.50	13.00	12.50



WHITE POPCORN



PRISTINE



COTTON TOP

Pompons, Singles and Anemones

Types are abbreviated as follows. Pom.—Pompon; Dec.—Decorative; Sgl.—Single; Anem.—Anemone. Size of flower is indicated by S—Small; M—Medium; L—Large. Pinching and flowering dates given here are for normal flowering without shading or lights.

Note carefully instructions for ordering on page 2. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

WHITE—Continued

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
10-Week Varieties				
Encore	July 19	Nov. 5	Pure white. M. Pom.	\$3.50
Kolowa	July 19	Nov. 5	White, yellow center. M. Sgl.	4.00
Madonna	July 19	Nov. 5	M. Pom.	4.50
White Anemone	July 19	Nov. 5	L. Anemone	3.25
White Mensa	July 20	Nov. 5	Ivory white. L. Sgl.	3.00
Moonglow	July 20	Nov. 8	White. M. Pom.	3.50
Rev. Bushnell	July 20	Nov. 8	Cream white. M. Pom.	3.25
Dynamo	July 20	Nov. 10	M. Pom.	4.50
Illini Igloo (New)	July 20	Nov. 10	M. Pom.	5.00
Little America	July 20	Nov. 10	Pure white. M. Anem.	2.75
Nagona. (Calif. White Mensa)	July 20	Nov. 10	M. Sgl.	3.50
Shasta	July 22	Nov. 10	M. Anemone	3.00
Shasta Daisy	July 22	Nov. 10	M. Sgl. Sport of Shasta	3.00
Vesper	July 20	Nov. 10	M. Pom.	3.00
Illini Snowdrift	July 22	Nov. 12	White. M. Dec.	3.50
Matchless	July 22	Nov. 12	White. M. Pom.	3.00

11-Week Varieties

Eskimo	July 22	Nov. 15	White, yellow center. M. Sgl.	4.50
Lakme	July 22	Nov. 15	Green eye. S. Pom.	3.50
Sculpture	July 22	Nov. 15	Ivory white. L. Sgl.	4.50
Snowflurry	July 22	Nov. 15	S. Pom.	4.00
White Freida	July 22	Nov. 15	Yellow cushion. L. Anem.	3.00
White Norma	July 22	Nov. 15	White suffused with pink. L. Anem.	3.25
Highbrow	July 24	Nov. 20	Ivory white. M. Dec.	4.00
Long Island Beauty	July 24	Nov. 20	White, yellow cushion. L. Anem.	2.75
Nevada	July 24	Nov. 20	White, green cushion. M. Anem.	3.00
Priscilla	July 24	Nov. 20	Ivory, M. Pom.	3.00
Seafoam	July 24	Nov. 20	M. Pom.	3.00
Crystal Beauty	July 28	Nov. 23	Pure white, M. Pom.	3.50
Illini Bountiful	July 28	Nov. 23	White. M. Dec.	3.50
Paramount	July 28	Nov. 23	M. Pom.	4.00

Pompons, Singles and Anemones

WHITE—Continued

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
12-Week Varieties				
White Lady (New)	July 28	Nov. 25	Sport of Beautiful Lady	\$5.00
White Yuletide	July 28	Nov. 25	Short. M. Pom.	3.00
Crystal Valencia (New)	July 28	Nov. 28	Imp. White Valencia	5.00
White Valencia	July 28	Nov. 28	Sport of Valencia	3.50
Belray	July 28	Nov. 30	L. Pom.	4.00
Cordova	July 28	Nov. 30	Cream white. M. Dec.	3.00
Fortune	Aug. 2	Dec. 1	White. M. Pom.	4.00
Monarch	Aug. 2	Dec. 1	Ivory white. L. Dec.	4.50

13-Week Varieties

Acclaim	July 31	Dec. 5	Large formal Pom.	4.50
Cameo	Aug. 1	Dec. 5	Ivory white. Med. Dec.	3.00
Cotillion	Aug. 1	Dec. 5	M. Semi-formal Pom.	4.50
Spangles	Aug. 1	Dec. 5	S. Pom.	4.00
Swan	Aug. 1	Dec. 5	L. Anemone	3.50
Carrara (New)	Aug. 1	Dec. 8	M. Dec.	5.00
Snowdrop	Aug. 1	Dec. 8	S. Pom.	4.50
Snow Queen	Aug. 1	Dec. 10	M. Formal Pom.	4.50
White Supreme	Aug. 2	Dec. 10	L. Anemone	3.25
Yukon	Aug. 1	Dec. 10	M. Single	3.00

14-Week Varieties

Snowcrest	Aug. 4	Dec. 15	Green eye. S. Pom.	3.50
Garza	Aug. 4	Dec. 15	M. Anemone	3.00
Satellite	Aug. 4	Dec. 15	Ivory white. M. Formal Pom.	4.50
Silversmith	Aug. 4	Dec. 15	Pure white. M. Dec.	3.50
Snowcap	Aug. 4	Dec. 15	White. L. Pom.	3.50
Heirloom	Aug. 7	Dec. 20	M. Dec.	4.00
Revelation	Aug. 7	Dec. 25	M. Dec.	2.75
Snow	Aug. 7	Dec. 25	Ivory white. M. Pom.	3.00
Illini Snowbound (New)	Aug. 20	Jan. 5	M. Dec.	5.00

YELLOW

Best yellows for August, ***Gold Coast**; September, ***Gold Coast**; October, ***Mary Hall, Gold Coast**; November, **Constellation, Yellow Fellow**; Thanksgiving, **Goldsmith**; December, **Yellow Cameo**; Christmas, **Yellow Snow**.

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
7-Week Varieties				
Yel. Chris Columbus	June 25	Oct. 1	Sport of Chris. Columbus	\$3.50
Moonlight (New)	June 25	Oct. 1	M. Dec.	5.00
Honeycomb	June 25	Oct. 1	S. Pom.	3.00
D.C.P.	June 25	Oct. 1	S. Pom.	3.50
Polaris	June 30	Oct. 5	Med. Sgl.	4.00
Chas. Nye	June 30	Oct. 5	Med. Dec.	3.25
Garland	June 30	Oct. 5	Med. Sgl.	4.50
Yellow Spoon	June 30	Oct. 5	Med. Spoon	3.50
Bright Forecast	July 5	Oct. 10	Small formal pompon	4.00
Goldrush	July 5	Oct. 10	Small Sgl.	4.00
Treasure	July 5	Oct. 10	S. Pom.	4.50
Lemonade	July 8	Oct. 12	Ivory yellow. M. Dec.	4.00
Sweepstake	July 8	Oct. 12	S. Pom.	4.00

*Starred varieties must be shaded to flower at this time.

Pompons, Singles and Anemones

YELLOW—Continued

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
8-Week Varieties				
Yellow Irene	July 8	Oct. 15	Light lemon yellow. S. Pom.	\$3.00
Moondrift (New)	July 8	Oct. 20	Ivory yellow. M. Sgl.	5.00
Rodell Improved	July 8	Oct. 20	Lemon yellow. S. Pom.	2.75
9-Week Varieties				
Cream Dot	July 14	Oct. 25	M. Pom.	3.00
Gold Coast	July 14	Oct. 25	Lemon yellow. M. Pom.	2.75
Golden Herald	July 14	Oct. 25	Golden yellow. L. Dec.	3.00
Red Dot	July 20	Oct. 25	Yellow, red center. M. Pom.	3.50
Sunup	July 14	Oct. 25	Lemon yellow. S. Pom.	4.50
Yellow Dot	July 14	Oct. 25	Bronze center. M. Pom.	3.00
Yellow Firebird	July 14	Oct. 25	Bright lemon. M. Dec.	3.25
Yellow Arcadia	July 14	Oct. 28	Pernet yellow. M. Pom.	3.00
California Yel. Daisy	July 20	Nov. 1	Bright lemon. M. Sgl.	3.00
Ivory Sea Gull	July 20	Nov. 1	Sport of Sea Gull	3.00
Mary Gold	July 20	Nov. 1	Deep lemon. M. Pom.	2.75
Mary Hall	July 14	Nov. 1	Lemon yellow. M. Pom.	2.75
Schneeburg's Daisy	July 15	Nov. 1	Golden yellow sport of Yellow Daisy	3.50
Starbright	July 14	Nov. 1	Golden yellow. L. Sgl.	3.50
Yellow Cassandra	July 20	Nov. 1	Sport	3.50
Yellow Daisy	July 14	Nov. 1	Golden yellow. M. Sgl.	3.00
Yellow Doty	July 14	Nov. 1	Buff yellow. L. Pom.	3.00
Yellow Halo (New)	July 14	Nov. 1	Sport of Halo	5.00
Yellow Sea Gull	July 14	Nov. 1	Light lemon yellow. Tall. M. Pom.	3.00
Sunray	July 14	Nov. 3	Light lemon yellow. S. Anem.	2.75
10-Week Varieties				
Brigadcon	July 20	Nov. 5	M. Sgl.	4.50
Barcarole	July 20	Nov. 5	Golden yellow. M. Pom.	3.00
Constellation	July 20	Nov. 5	Yellow. M. Dec.	3.00
Crescendo	July 20	Nov. 5	Tall yellow. L. Pom.	4.00
Golden Mensa	July 20	Nov. 5	Sport of Mensa	3.00
Nuggets	July 20	Nov. 5	Light lemon yellow. S. Pom.	2.75
Pixie	July 20	Nov. 5	Deep golden yellow. S. Pom.	3.25
Mason's Yellow	July 20	Nov. 10	L. Sgl.	3.25
Yellow Nagona	July 20	Nov. 10	(Calif. Yellow Mensa) . Med. Sgl.	3.50
Yellow Shasta	July 20	Nov. 10	Light lemon sport of Shasta	3.00
Illini Goldcup	July 20	Nov. 10	Buttercup yellow. L. Pom.	4.00
11-Week Varieties				
Forty-Niner	July 24	Nov. 15	Yellow. M. Pom.	3.50
Golden Chord	July 24	Nov. 15	Golden yellow. M. Pom.	3.50
Princeton	July 24	Nov. 15	Orange-yellow. M. Dec.	3.25
Thorobred	July 24	Nov. 15	L. Sgl.	4.50
Yellow Fellow	July 24	Nov. 15	Deep lemon yellow. M. Dec.	3.00
Illini Brave	July 22	Nov. 15	Lemon yellow. M. Pom.	3.50
Tacoma (New)	July 22	Nov. 15	L. Pom.	5.00
Susanne Miller	July 22	Nov. 15	Buff yellow. L. Anem.	3.25
Bojangles	July 24	Nov. 20	Yellow daisy	4.00
Illini Sunspot (New)	Aug. 1	Nov. 20	Bright lemon. L. Pom.	5.00
Klondike	July 24	Nov. 20	Orange yellow. M. Pom.	4.00

Pompons, Singles and Anemones

YELLOW—11-Week Varieties Continued

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
Lollipop	July 24	Nov. 20	Lemon yellow. M. Pom.	\$4.00
Pippin	July 24	Nov. 20	Deep lemon. M. Pom.	4.50
Yellow Highbrow (New)	July 24	Nov. 20	Sport of Highbrow	5.00
Yellow L. I. Beauty	July 24	Nov. 20	L. Anem.	3.50
Yellow Nevada	July 24	Nov. 20	Med. Anem.	3.00

12-Week Varieties

Champagne	July 28	Nov. 25	Yellow. M. Sgl.	3.50
Goldenrod	July 28	Nov. 25	M. Pom.	4.50
Goldsmith	July 28	Nov. 25	Golden yellow. L. Dec.	3.25
Highlander	July 28	Nov. 25	M. Formal Dec.	4.50
Illini Gold	July 28	Nov. 25	Deep golden yellow. M. Pom.	3.25
Illini Sunny (New)	July 28	Nov. 25	M. Pom.	5.00
Sunnyside	July 28	Nov. 25	Golden yellow. M. Pom.	3.00
Yellow Priscilla	July 28	Nov. 25	Lemon. M. Dec.	4.50
Yellow Rolinda	July 28	Nov. 25	Light buff yellow. M. Anem.	3.00
Golden Jane	Aug. 1	Nov. 28	Golden yellow. L. Sgl.	3.00
Yellow Valencia	July 28	Nov. 28	Sport of Valencia.	3.00
Yellow Cordova	July 28	Nov. 30	Lemon yellow. M. Dec.	3.00
Nosegay	July 28	Dec. 1	Yellow. S. Pom.	4.50
Omega	July 28	Dec. 1	Lemon yellow. M. Pom.	3.00
Yellow Galaxy (New)	July 28	Dec. 1	Sport of Galaxy	5.00

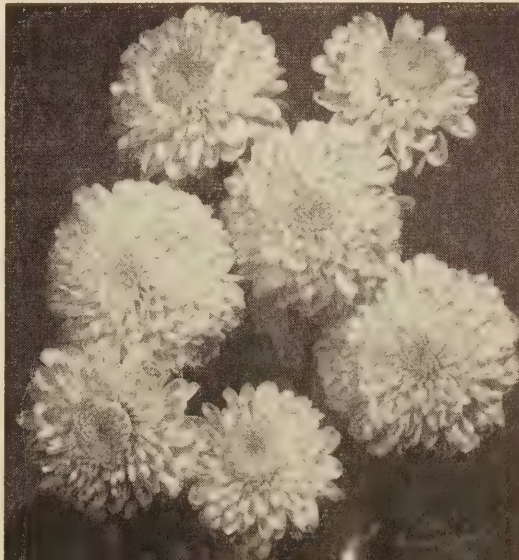
13-Week Varieties

Golden Harvest	Aug. 1	Dec. 5	Deep gold. S. Pom.	3.50
Brandywine	Aug. 1	Dec. 5	Orange yellow. M. Dec.	4.50
Cinderella	Aug. 1	Dec. 5	Yellow. M. Sgl.	3.50
Goldtone	Aug. 1	Dec. 5	Lemon. M. Sgl.	4.00
Jack-Pot	Aug. 1	Dec. 5	Golden yellow. L. Dec.	4.50
Symmetry	Aug. 1	Dec. 5	M. Pom.	4.50
Yellow Cameo	Aug. 1	Dec. 5	Deep lemon yellow. M. Pom.	3.00
Yellow Spangles (New)	Aug. 1	Dec. 5	Sport of Spangles	5.00
Yellow Swan	Aug. 1	Dec. 5	Sport of Swan.	3.50
Yellow Supreme	Aug. 2	Dec. 10	Buff yellow. L. Anem.	3.25
Challenge	Aug. 2	Dec. 12	Yellow. M. Sgl.	4.00
Corsair	Aug. 2	Dec. 12	Lemon. L. Pom.	4.50

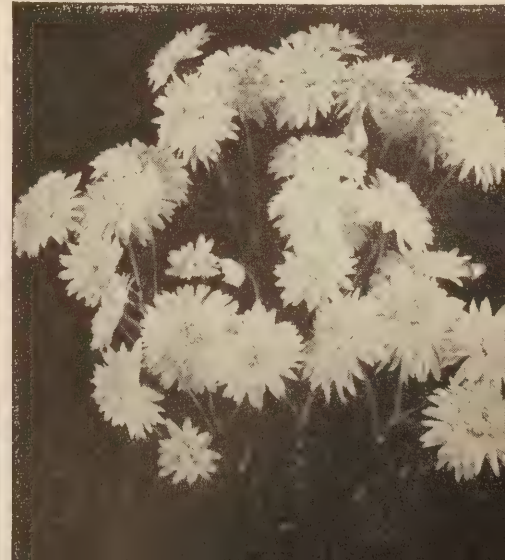
PIPPIN



GOLDEN CHORD



YELLOW CAMEO



Pompons, Singles and Anemones

Types are abbreviated as follows. Pom.—Pompon; Dec.—Decorative; Sgl.—Single; Anem.—Anemone. Size of flower is indicated by S—Small; M—Medium; L—Large. Pinching and flowering dates given here are for normal flowering without shading or lights.

Note carefully instructions for ordering on page 2. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

YELLOW—Continued

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
14-Week Varieties				
Cream Snowcrest (New)	Aug. 4	Dec. 15	Sport of Snowcrest.	\$5.00
Yellow Riviera	Aug. 4	Dec. 15	Golden yellow sport of Riviera	3.50
Yellow Snowcrest	Aug. 4	Dec. 15	Sport of Snowcrest.	4.50
December Gold	Aug. 4	Dec. 15	Deep golden yellow. M. Dec.	3.00
Sequin	Aug. 4	Dec. 15	S. Pom.	4.00
Shamrock	Aug. 4	Dec. 15	L. Dec.	4.00
Yellow Garza	Aug. 4	Dec. 15	Sport of Garza	3.00
Gold Seal (New)	Aug. 7	Dec. 20	M. Single	5.00
Revelry	Aug. 7	Dec. 20	Lemon. M. Dec.	4.50
Sunkist	Aug. 7	Dec. 20	M. Sgl.	3.50
Sunrise	Aug. 7	Dec. 20	Yellow. M. Pom.	4.50
Vibrant	Aug. 4	Dec. 20	Deep lemon yellow. M. Dec.	3.00
Golden Anniversary	Aug. 7	Dec. 25	Yellow. S. Pom.	3.50
Siren	Aug. 7	Dec. 25	Lemon yellow. M. Dec.	4.00
Yellow Revelation	Aug. 7	Dec. 25	Lemon sport of Revelation	3.50
Yellow Snow	Aug. 7	Dec. 25	Deep lemon yellow. M. Pom.	3.00
Yuleflame	Aug. 7	Dec. 25	Yellow. L. Dec.	3.50
Illini Yellow Snowbound (New)	Aug. 15	Jan. 5	Light lemon sport of Illini Snowbound	5.00

BRONZE AND RED

Best bronze and reds for August, ***Firebird**; September, **Seneca**; October, ***Bronze Masterpiece**; November, **Red Rust**, **Bronze Masterpiece**; Thanksgiving, **Bronze Goldsmith**; December, **Debonair**; Christmas, **Christmas Star**.

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
7-Week Varieties				
Bonfire	June 25	Oct. 1	Red Pompon.	\$3.50
Marionette	June 25	Oct. 1	Rust red. S. Pom.	4.00
Mogul	June 25	Oct. 1	Raspberry bronze. S. Dec.	5.00
W. P. Snyder	June 25	Oct. 1	Coral bronze. M. Dec.	3.50
Avalon	June 30	Oct. 5	Light bronze. S. Pom.	5.00
Firecracker	July 1	Oct. 5	Mahogany bronze. M. Dec.	4.50
Huntsman	June 30	Oct. 5	Reddish bronze. L. Dec.	3.50
Mona	June 30	Oct. 5	Rust bronze. S. Pom.	4.00
Panorama	July 2	Oct. 8	Orange bronze. S. Pom.	5.00
Bamboo	July 4	Oct. 10	Buff bronze S. Sgl.	4.00
Blueblood	July 4	Oct. 10	Deep amaranth. M. Dec.	4.50
Calico	July 4	Oct. 10	Coral bronze. S. Sgl.	4.00
Caravan	July 4	Oct. 10	Salmon bronze. M. Dec.	4.50
Carmine Queen	July 4	Oct. 10	Carmine red. S. Pom.	4.00
Carnival	July 4	Oct. 10	Burnt orange. S. Pom.	3.50
Fireside	July 4	Oct. 10	Burnt orange and salmon. M. Dec.	4.00
Red Velvet	July 4	Oct. 10	Velvety crimson. M. Dec.	3.25
Remembrance	July 4	Oct. 10	Crimson red. M. Dec.	3.50

*Starred varieties must be shaded to flower at this time.

Pompons, Singles and Anemones

BRONZE AND RED—7-Week Varieties Continued

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
Admiral	July 5	Oct. 12	Crimson, M. Dec.	\$4.50
Carmelita	July 5	Oct. 12	Orange apricot, M. Dec.	4.00
Fashion	July 5	Oct. 12	Salmon and rosewood, M. Dec.	4.00
Mrs. DuPont	July 5	Oct. 12	Coral buff, L. Dec.	3.50
Nocturne	July 5	Oct. 12	Crimson, S. Pom.	4.00
Nokomis	July 5	Oct. 12	Bronze, M. Dec.	4.00
Nytoda	July 5	Oct. 12	Apricot buff, M. Sgl.	5.00
Witchery	July 5	Oct. 12	Golden bronze, M. Dec.	4.00

8-Week Varieties

Cocktail	July 8	Oct. 15	Salmon orange, M. Pom.	4.50
Detroitier	July 8	Oct. 15	Reddish bronze, S. Pom.	3.50
Rajah	July 8	Oct. 15	Scarlet red, M. Sgl.	4.50
Red Glow	July 8	Oct. 15	Crimson-red, M. Dec.	3.50
Robinhue	July 8	Oct. 15	Red, M. Dec.	4.00
James Stewart	July 8	Oct. 15	Apricot Gold, S. Pom.	4.00
Adelaide	July 15	Oct. 20	Dark reddish bronze, S. Pom.	3.00
Jemima	July 15	Oct. 20	Dark reddish bronze, L. Pom.	3.00
Bronze Mary McArthur	July 18	Oct. 23	Sport of Mary McArthur.	3.50

9-Week Varieties

Bonton	July 20	Oct. 25	Bronze, M. Pom.	3.25
Bronze Dot	July 20	Oct. 25	Sport of Pink Dot.	3.00
Buckskin	July 20	Oct. 25	Tawny bronze, S. Sgl.	4.00
Firebird	July 20	Oct. 25	Dark reddish bronze, M. Dec.	3.00
October Bronze	July 16	Oct. 28	Rosewood, M. Sgl.	3.25
Firefly	July 14	Nov. 1	Orange red, M. Pom.	4.00
Bronze Daisy	July 14	Nov. 1	Bronze sport of Yel. Daisy	3.00
Buccaneer	July 14	Nov. 1	Orange apricot, M. Sgl.	4.50
Imp. Bronze Daisy	July 14	Nov. 1	(Katoka Red) Sport of Br. Daisy	3.50
Imp. Red Daisy	July 14	Nov. 1	(Adachi Red) Sport of Red Daisy	3.50
Red Seneca	July 14	Nov. 1	Red sport of Seneca	3.50
Navaho	July 14	Nov. 1	Deep crimson, M. Pom.	3.00
Seneca	July 14	Nov. 1	Orange red, M. Dec.	3.25
Red Daisy	July 14	Nov. 1	Deep red, M. Sgl.	3.25
Bronze Buckingham	July 15	Nov. 1	Light orange bronze, M. Sgl.	3.50

THIS TABLE INDICATES PRICES FOR MORE THAN 50 OF A VARIETY ON ONE SHIPMENT

50 Only	100-250 Per 100	300-450 Per 100	500-950 Per 100	1000-2450 Per 100	2500-up Per 100
\$2.75	\$5.20	\$4.95	\$4.65	\$4.40	\$4.10
3.00	5.70	5.40	5.10	4.80	4.50
3.25	6.15	5.85	5.50	5.20	4.85
3.50	6.65	6.30	5.95	5.60	5.25
4.00	7.60	7.20	6.80	6.40	6.00
4.50	8.55	8.10	7.65	7.20	6.75
5.00	9.50	9.00	8.50	8.00	7.50
6.25	12.00	11.50	11.00	10.50	10.00
7.50	14.50	14.00	13.50	13.00	12.50



FESTIVAL



RUSTICON



PARAGON

Pompons, Singles and Anemones

Types are abbreviated as follows. Pom.—Pompon; Dec.—Decorative; Sgl.—Single; Anem.—Anemone. Size of flower is indicated by S—Small; M—Medium; L—Large. Pinching and flowering dates given here are for normal flowering without shading or lights.

Note carefully instructions for ordering on page 2. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

BRONZE AND RED—Continued

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
10-Week Varieties				
Comanche	July 15	Nov. 2	Orange bronze. M. Pom.	\$3.50
Beauregard	July 19	Nov. 5	Reddish orange. M. Pom.	4.00
Bittersweet	July 14	Nov. 5	Bittersweet red. M. Sgl.	3.00
Butterscotch	July 20	Nov. 5	Golden bronze. M. Pom.	3.50
Cassandra	July 14	Nov. 5	Orange bronze. M. Pom.	3.00
Magician	July 14	Nov. 5	Bronze. L. Pom.	4.00
Red Rust	July 14	Nov. 5	Reddish bronze. M. Dec.	3.00
Rubicon	July 14	Nov. 5	Bronze red. M. Dec.	3.50
Gypsy	July 15	Nov. 8	Light reddish bronze. S. Anem.	3.00
Bronze Linda Lou	July 19	Nov. 10	Rosewood sport of Linda Lou	3.50
Bronze Thyra	July 19	Nov. 10	Rosewood sport of Thyra. L. Pom.	3.50
Bronze Tuxedo	July 19	Nov. 10	Buff. Med. L. Anem.	3.25
Chanticleer	July 19	Nov. 10	Reddish bronze. L. Pom.	4.00
Chevron	July 19	Nov. 10	Orange red. M. Dec.	4.00
Copperhead	July 20	Nov. 10	Coppery bronze. L. Dec.	4.00
Europa	July 19	Nov. 10	Cardinal red. L. Sgl.	3.50
Illini Burma	July 19	Nov. 10	Light bronze. L. Pom.	4.50
Mason's Bronze	July 19	Nov. 10	Burnt orange. L. Sgl.	3.25
Mason's Red	July 19	Nov. 10	Scarlet. L. Sgl.	3.25
Samovar	July 19	Nov. 10	Reddish bronze. M. Pom.	3.50
Sylvanna	July 19	Nov. 10	Reddish orange. M. Sgl.	3.00
The Titan	July 19	Nov. 10	Scarlet crimson. L. Anem.	3.25
Gold Braid	July 19	Nov. 12	Yellow, bronze-red center. M. Pom.	4.50
Bronze Masterpiece	July 19	Nov. 12	Rosewood bronze. M. Pom.	3.00
Dark Bronze Masterpiece	July 19	Nov. 12	Sport. M. Pom.	3.50
Illini Rye	July 25	Nov. 12	Straw color. M. Pom.	4.50
Illini Tangier (New)	July 25	Nov. 12	Reddish bronze. L. Dec.	5.00
Paragon	July 19	Nov. 12	Red. L. Pom.	4.00

IMPORTANT: ABSOLUTELY NO CHANGES ON YOUR ORDER CAN BE ACCEPTED WITHIN 30 DAYS OF DELIVERY DATE.

Pompons, Singles and Anemones

BRONZE AND RED—Continued

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
11-Week Varieties				
Bronze Princeton	July 28	Nov. 15	Brazil red, M. Dec.	\$3.25
Illini Honey	July 28	Nov. 15	Honey amber, S. Pom.	3.50
Mrs. Dewey	July 25	Nov. 15	Deep bronze, L. Sgl.	4.00
Red Princeton	July 24	Nov. 15	Brazil red, M. Dec.	3.25
Shalimar	July 24	Nov. 15	Orange bronze, M. Anem.	4.50
Illini Redhead	July 23	Nov. 17	Deep red, S. Pom.	3.50
Bourbon	July 25	Nov. 20	Rust bronze, M. Sgl.	3.50
Illini Warrior	July 25	Nov. 20	Bronze orange, Button Pom.	3.50
Legal Tender	July 24	Nov. 20	Red Gold, M. Dec.	2.75
Rusticon	July 25	Nov. 20	Rust red, M. Pom.	3.00
Thelma	July 25	Nov. 20	Orange scarlet, M. Pom.	4.50
Carousel	July 25	Nov. 23	Coral bronze.	4.00
Red Rolinda	July 24	Nov. 23	Red, M. Anem.	3.00
Bronze Minuet	July 28	Nov. 23	Bronze Pom.	3.50
Festival	July 28	Nov. 23	Apricot red, S. Sgl.	3.50
12-Week Varieties				
Bronze Goldsmith	July 28	Nov. 25	Mars orange, M. Dec.	3.25
Falcon	July 28	Nov. 25	Reddish orange, M. Pom.	4.00
Yolanda	July 28	Nov. 25	Orange bronze, M. Anem.	3.50
Wanakah (New)	July 28	Nov. 25	Sport of Hasegawa Pink	5.00
Apricot Valencia	July 28	Nov. 28	L. Sgl.	3.00
Crimson Valencia	July 28	Nov. 28	L. Sgl.	3.50
Indian Head	July 28	Nov. 28	Reddish apricot, M. Sgl.	4.00
Amberina	July 28	Dec. 1	Orange bronze, M. Dec.	4.50
Galaxy	July 28	Dec. 1	Orange scarlet, M. Sgl.	3.50
13-Week Varieties				
Bronze Enchantress	July 28	Dec. 5	Sport of Enchantress	3.25
Dazzler	July 28	Dec. 5	Coppey bronze.	
			L. Sgl. Anem. center	4.50
Debonair	July 28	Dec. 5	Crimson red, L. Pom.	3.00
Mahogany Viking	July 28	Dec. 5	Mahogany bronze, M. Sgl.	3.50
Bronze Supreme	Aug. 1	Dec. 10	Buff apricot, L. Anem.	3.25
Cavalcade	Aug. 5	Dec. 10	Mandarin red, M. Pom.	3.50
Harlequin	Aug. 4	Dec. 10	Crimson red, M. Dec.	4.50
Holiday	Aug. 4	Dec. 10	Wide-petaled crimson red, M. Sgl.	3.50
Pageantry	Aug. 5	Dec. 10	Red, M. Pom.	4.00
Red Supreme	Aug. 5	Dec. 10	Sport of Dk. Pk. Supreme.	
			L. Anem.	3.50
Christmas Star	Aug. 4	Dec. 12	Scarlet red, M. Sgl.	3.50
Bronze Minstrel	Aug. 1	Dec. 13	Coral sport of Minstrel, Pom.	3.50
Dark Bronze Minstrel (New)	Aug. 1	Dec. 13	Reddish bronze sport of Minstrel.	5.00
14-Week Varieties				
Bronze Riviera	Aug. 1	Dec. 15	Sport of Riviera	3.50
Christmas Greeting	Aug. 4	Dec. 15	Crimson-scarlet, M. Dec.	4.00
Claret	Aug. 4	Dec. 15	Brilliant red, M. Sgl.	4.50
Sarong	Aug. 4	Dec. 15	Crimson, M. Sgl.	3.25
Topaz	Aug. 4	Dec. 15	Orange bronze, M. Sgl.	4.50
Merrymaker	Aug. 7	Dec. 20	Scarlet, M. Sgl.	3.50
Poinsettia	Aug. 1	Dec. 20	Scarlet red, L. Sgl.	4.50

Pompons, Singles and Anemones

Types are abbreviated as follows. Pom.—Pompon; Dec.—Decorative; Sgl.—Single; Anem.—Anemone. Size of flower is indicated by S—Small; M—Medium; L—Large. Pinching and flowering dates given here are for normal flowering without shading or lights.

Note carefully instructions for ordering on page 2. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

PINK

Best pinks for August, *Carolyn Yosick; September, *Carolyn Yosick; October, *Masterpiece, Carolyn Yosick; November, Thyra, Masterpiece; Thanksgiving, Minuet; December, Riviera; Christmas, Minstrel.

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
7-Week Varieties				
Misty Maid	June 25	Oct. 1	Light pink. L. Dec.	\$3.50
Early Wonder	June 25	Oct. 1	Lavender. M. Pom.	3.00
Spellbound	June 25	Oct. 1	Lavender-Pink. M. Dec.	3.25
Argonne	July 4	Oct. 10	Amaranth. Pom.	3.50
Brigadier	July 4	Oct. 10	Salmon rose. M. Dec.	5.00
Courtier	July 4	Oct. 10	Lavender pink. Dec.	4.50
Dream Girl	July 4	Oct. 10	Light lavender. M. Pom.	3.50
Joybringer	July 4	Oct. 10	Salmon rose. M. Pom.	4.00
Lassie	July 4	Oct. 10	Dark pink. M. Dec.	4.50
Orchid Spoon	July 4	Oct. 10	M. Spoon	3.50
Ponca	July 4	Oct. 10	Dark lavender. S. Dec.	3.50
Serenade	July 4	Oct. 10	Magenta pink. M. Sgl.	4.00
Sweetheart	July 4	Oct. 10	Lavender pink. M. Sgl.	4.00
Adagio	July 4	Oct. 12	Coppery rose Pom. Tall	4.00
Allegro	July 8	Oct. 12	Shrimp pink. S. Dec.	3.25
Lavender Lady	July 8	Oct. 12	Light lavender. L. Dec.	3.50
Masquerade	July 8	Oct. 12	Lavender rose. S. Pom.	3.50
Ronnie	July 8	Oct. 12	Dark lavender. S. Pom.	3.50
Salute	July 8	Oct. 12	Deep pink. S. Sgl.	4.00
8-Week Varieties				
Dark Jewell	July 10	Oct. 15	Deep lavender. S. Pom.	3.00
Elizabeth Hood	July 10	Oct. 15	Lavender. L. Pom.	5.00
Enterprise	July 10	Oct. 15	Amaranth. M. Pom.	5.00
Jewell	July 10	Oct. 15	Lavender. S. Pom.	3.00
Carolyn Yosick	July 8	Oct. 20	Lavender. S. Dec.	3.00
Capt. Cook	July 15	Oct. 23	Deep rose pink. M. Pom.	3.00
Pink Sprite	July 14	Oct. 23	Light orchid. S. Pom.	3.50
Mary McArthur	July 14	Oct. 23	Pink, shaded bronze. S. Pom.	3.50
9-Week Varieties				
Betty Rose	July 14	Oct. 25	Lavender. L. Anem.	3.25
Edith Roberts	July 14	Oct. 25	Light orchid pink. S. Pom.	3.50
Jessie	July 14	Oct. 25	Light lavender. M. Pom.	3.00
October Pink	July 14	Oct. 25	Light lavender. M. Sgl.	3.25
Pink Dot	July 14	Oct. 25	Light pink. M. Pom.	3.00
Reward	July 14	Oct. 25	Deep pink. M. Sgl.	4.00
Arbutus (New)	July 16	Nov. 1	Shrimp pink. M. Pom.	5.00
Ballerina	July 16	Nov. 1	Pink. M. Sgl.	3.50
Lillian Doty	July 16	Nov. 1	Light lavender. L. Pom.	3.00
Pink California Daisy	July 16	Nov. 1	M. Sgl.	3.50
Rainbow (New)	July 16	Nov. 1	Coral pink. M. Sgl.	5.00
W. H. Buckingham	July 15	Nov. 1	Rose. M. Sgl.	3.50

*Starred varieties must be shaded to flower at this time.

Pompons, Singles and Anemones

PINK—Continued

Variety	Pinch	Normal Flowering Date	Description	Price 50 Only
10-Week Varieties				
Dreamboat	July 16	Nov. 5	Lavender pink. M. Pom.	\$3.00
Dark Bulkeley	July 20	Nov. 8	Dark rose pink. M. Pom.	3.25
Dark Linda Lou	July 20	Nov. 10	Dark lavender sport of Linda Lou	3.00
Linda Lou	July 20	Nov. 10	Pink, yellow cushion. M. Anem.	3.00
Miss Clarinda	July 20	Nov. 10	Light lavender. M. Pom.	4.50
Pandora	July 20	Nov. 10	Luminous pink. L. Dec.	4.50
Soprano	July 20	Nov. 10	Pink. L. Sgl.	3.50
Thyra	July 19	Nov. 10	Lavender. M. Pom.	3.00
Tuxedo	July 19	Nov. 10	Pink. L. Anem.	3.25
Masterpiece	July 22	Nov. 12	Tourmaline pink. M. Pom.	3.00
Memorial	July 22	Nov. 12	Lavender. M. Anem.	4.50
Rose Masterpiece	July 22	Nov. 12	Rose pink sport of Masterpiece.	3.50
Salmon Masterpiece	July 22	Nov. 12	Salmon pink sport of Masterpiece	3.50
Taffeta	July 22	Nov. 12	Deep pink. M. Dec.	4.00

11-Week Varieties

Brocade	July 24	Nov. 15	Shell pink. M. Sgl.	3.00
Dark Norma	July 25	Nov. 15	Deep lavender. L. Anem.	3.25
Freida	July 25	Nov. 15	Light lavender. L. Anem.	3.00
Orchid Beauty	July 22	Nov. 15	Orchid, golden cushion. M. Anem.	3.00
Almega (New)	July 22	Nov. 15	Lavender pink. L. Pom.	5.00
Dark L. I. Beauty (New)	July 24	Nov. 20	Imp. Pink L. I. Beauty	5.00
Evening Star	July 24	Nov. 20	Dark lavender. M. Anem.	4.50
Grand Slam	July 24	Nov. 20	Silvery shell pink. L. Sgl.	4.50
Majorette	July 24	Nov. 20	Pink. M. Anem.	4.00
Pink Long Island Beauty	July 24	Nov. 20	Pink sport of L. I. Beauty	3.50
Pinky	July 24	Nov. 20	Pink. M. Dec.	4.00
Vivacious Lady	July 24	Nov. 20	Spoon type novelty.	4.50
Minuet	July 24	Nov. 23	Mauve to rose pink. M. Pom.	3.00

12-Week Varieties

Beautiful Lady	July 28	Nov. 25	Lavender. L. Anem.	3.00
Hasegawa Pink	July 28	Nov. 25	Lavender. M. Sgl.	3.50
Princess	July 28	Nov. 25	S. Pom.	4.50
Dark Valencia	Aug. 1	Nov. 28	Deep pink. M. Sgl.	3.00
Dubonnet Valencia (New)	Aug. 1	Nov. 28	Deep orchid sport of Valencia	5.00
Orchid Valencia	July 28	Nov. 28	Orchid sport of Valencia.	4.50
Salmon Valencia	July 28	Nov. 28	Salmon sport of Valencia	4.50
Valencia	July 28	Nov. 28	Orchid pink. L. Sgl.	3.00
Heritage	July 28	Dec. 1	Dark pink. L. Pom.	4.50

13-Week Varieties

Dark Enchantress	Aug. 1	Dec. 5	Deep pink sport of Enchantress. L. Anem.	3.50
Enchantress	Aug. 1	Dec. 5	Deep pink. L. Anem.	3.25
Dark Pk. Supreme	Aug. 2	Dec. 12	Lavender. L. Anem.	3.25
Debutante	Aug. 1	Dec. 10	Large pink single.	4.00
Illini Camille	Aug. 1	Dec. 10	Light pink. M. Sgl.	4.00
Imp. Dark Supreme	Aug. 1	Dec. 10	Sport of Dk. Pk. Supreme	3.50
Light Pink Minstrel (New)	Aug. 1	Dec. 13	Sport of Minstrel	5.00
Minstrel	Aug. 1	Dec. 13	Lavender pink. M. Pom.	3.50

Pompons, Singles and Anemones

Types are abbreviated as follows. Pom.—Pompon; Dec.—Decorative; Sgl.—Single; Anem.—Anemone. Size of flower is indicated by S—Small; M—Medium; L—Large. Pinching and flowering dates given here are for normal flowering without shading or lights.

Note carefully instructions for ordering on page 2. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

PINK—Continued

14-Week Varieties

Coronet	Aug. 1	Dec. 15	Dark pink, M. Sgl.	\$4.00
Dark Riviera	Aug. 10	Dec. 15	Deep lavender sport of Riviera. M. Dec.	3.50
Riviera	Aug. 10	Dec. 15	Luminous pink, M. Dec.	3.00
Serrated Riviera (New)	Aug. 10	Dec. 15	Sport of Riviera.	5.00
Defiance	Aug. 7	Dec. 20	True orchid pink, M. Dec.	3.50
Medallion	Aug. 7	Dec. 20	Pink, M. Pom.	4.00
Pink Treasure Island	Aug. 15	Dec. 20	Light lavender, M. Dec.	2.75
Rosalind	Aug. 5	Dec. 20	Rose pink, M. Sgl.	3.00
Rose Medallion (New)	Aug. 7	Dec. 20	Sport of Medallion	5.00

THIS TABLE INDICATES PRICES FOR MORE THAN 50 OF A VARIETY ON ONE SHIPMENT

50 Only	100-250 Per 100	300-450 Per 100	500-950 Per 100	1000-2450 Per 100	2500-up Per 100
\$2.75	\$5.20	\$4.95	\$4.65	\$4.40	\$4.10
3.00	5.70	5.40	5.10	4.80	4.50
3.25	6.15	5.85	5.50	5.20	4.85
3.50	6.65	6.30	5.95	5.60	5.25
4.00	7.60	7.20	6.80	6.40	6.00
4.50	8.55	8.10	7.65	7.20	6.75
5.00	9.50	9.00	8.50	8.00	7.50
6.25	12.00	11.50	11.00	10.50	10.00
7.50	14.50	14.00	13.50	13.00	12.50

Special Collections

Any of the four collections listed at right are available at the reduced price shown if you leave the choice of varieties up to our propagator. In ordering any of these collections, please specify:

1. Whether you want greenhouse or garden varieties.
2. About when you want them to flower.
3. Colors and flower types you want.
4. Time of shipment.

Our propagator reserves the right to make the choice of varieties. Your order will be filled with good varieties and the cuttings you receive will be properly labeled as to variety. And of course, only our usual top grade cuttings will be shipped. The reduction in price is made only because our propagator can select varieties that are in good supply at the time you want shipment.

- A. 250 Rooted Cuttings.....\$14.25**
50 each of 5 varieties.
- B. 500 Rooted Cuttings..... 25.50**
50 each of 10 varieties; or
100 each of 5 varieties.
- C. 1000 Rooted Cuttings..... 48.00**
50 each of 20 varieties, or
100 each of 10 varieties, or
200 each of 5 varieties.
- D. 2500 Rooted Cuttings.....112.50**
50 each of 50 varieties, or
100 each of 25 varieties, or
250 each of 10 varieties, or
500 each of 5 varieties.

Garden (HARDY) Varieties

NEW DEPETRIS VARIETIES

Orloma. Luminous apricot bronze, full decorative type. Bushy cushion habit of growth and very free and durable. Early, blooming September 15.

Madame Cadillac. Pictured on back cover. Mulberry wine red, solid large Pompon type of great substance. Strong bushy and compact habit. Blooms by September 20 and lasts well into late October.

Dwight Douglas. Dazzling golden yellow decorative. Medium tall and very free and excellent for cutting. Blooms October 5 to 8.

Orsona. Reddish bronze, full decorative type. Very good bushy growth. Very desirable and showy. Blooms September 20-25.

Orpheus. Brilliant Roman red, large Pompon with perfect full form and very hard substance. Excellent strong and long stems with perfect spray formation. Very vigorous, clean, upright growth. Matures October 10-12. This variety is equal if not superior to any cloth house red now in existence. Blooming nicely for early October and can be shaded to bloom in late August and early September without fading.

ORLOMA
New apricot bronze
decorative.



Miguel. Radiant raspberry red decorative type with good keeping qualities. Good growth and stem. An excellent cut flower. Blooms October 8-10.

Genista. Very early solid yellow Pompon of good size. Dwarf bushy habit. Blooms from the end of August but in full bloom by September 12.

Prices above 7 varieties, each: 50 cuttings for **\$7.50**; 100-250, **\$14.50** per 100; 300-450, **\$14.00** per 100; 500-950, **\$13.50** per 100; 1000-2450, **\$13.00** per 100; 2500-up, **\$12.50** per 100.

WHITE

Types are abbreviated as follows. Pom.—Pompon; Dec.—Decorative; Sgl.—Single. Size of flower is indicated by S—Small; M—Medium; L—Large. P—Indicates varieties suitable for pots. C—Indicates varieties suitable for cutting.

Note carefully instructions for ordering on page 2. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

Name and Description	Height	Flowering Date	Price 50 Only
C Candlelight. Cream-white, yellow center. Dec.....	Med.	Sept. 15	\$3.00
P White Cushion. White, shaded pink at center. Cushion.....	Short	Sept. 15	3.00
C D. D. Ahrens. Free flowering, pure white. Dec.....	Tall	Sept. 10	3.00
P Paper White. White. Dec.....	Med.	Sept. 10	4.00
PC Chris Columbus. White with yellow buds. Large Dec.....	Tall	Sept. 15	3.50
Calcite. White with pale yellow center. Heavy bloomer. Dec.....	Med.	Sept. 15	3.00
Drifted Snow. A mound of double white flowers, shaded yellow. Dec.....	Med.	Sept. 15	3.00
P Polar Ice. Pure white, double, 3 in. flowers. L. Dec.....	Med.	Sept. 15	3.50
C White Bounty. White with cream center. Button.....	Tall	Sept. 15	3.50
C White Tower. Cream. L. Pom.....	Tall	Sept. 15	3.50
C White Wonder. Ball-shaped white. L. Pom.....	Med.	Sept. 25	3.00
Shalimar (H). Cream. L. Pom.....	Tall	Sept. 25	4.50
C White Cloud. White with delicate pink shading. Dec.....	Tall	Sept. 25	3.50
Pepita. Eggshell white, darker center. Button.....	Med.	Sept. 28	3.50
Snow Fall. White, slight cream center. Dec.....	Med.	Oct. 1	3.50
Ermine. Large, wide petaled ivory white. L. Dec.....	Med.	Oct. 1	4.00
Spindrift (New). White. L. Dec.....	Med.	Oct. 1	6.25
C Winterset (H). Large white Dec.....	Med.	Oct. 1	3.25
Avalanche. Cream. L. Dec.	Tall	Oct. 5	3.25
C Fragrant. Double white; long stems. Dec.....	Tall	Oct. 5	3.25
Horizon. White. Pom.	Med.	Oct. 5	4.50
Lyric. White. Sgl.	Short	Oct. 5	4.50
C Youdath's White. Large flowered, double white. L. Dec.....	Med.	Oct. 5	3.00

Garden (HARDY) Varieties

WHITE—Continued

	Name and Description	Height	Flowering Date	Price 50 Only
	Monogram. White, single	Short	Oct. 5	\$4.00
	Classic. White Button	Tall	Oct. 10	4.00
	Maestro. White Pom.	Short	Oct. 10	4.00
	Renown. White daisy	Med.	Oct. 10	4.00
PC	White Spoon. Pure white	Med.	Oct. 10	3.00
	Silverplate. Productive outdoor variety. Dec.....	Med.	Oct. 12	4.00
	Silver Ball. White. Pom.	Tall	Oct. 15	2.75
	Irene. White, yellow center. Button.....	Med.	Oct. 15	3.00
	Norona. White. S. Pom.	Med.	Oct. 15	4.50

YELLOW

	Name and Description	Height	Flowering Date	Price 50 Only
	Butterball. Butter yellow. Low, compact plant. Button.....	Short	Sept. 1	\$3.00
P	Early Gold. Golden yellow. Pom.....	Short	Sept. 5	3.50
C	Golden Hours. Chrome yellow. Pom.....	Med.	Sept. 8	3.25
	Genista (New). Canary pom.	Med.	Sept. 12	7.50
	Ruthann Lehman. Canary. L. Pom.....	Med.	Sept. 12	4.50
P	Pomponette. Excellent early yellow. Pom.....	Short	Sept. 15	3.00
	Sunapee. Deep lemon. Pom.	Tall	Sept. 15	3.25
P	Yellow Supreme (H). Bright lemon. Cushion.....	Short	Sept. 15	3.00
P	Yellow Chris Columbus. Bright lemon. L. Dec.....	Med.	Sept. 15	3.50
	Yellow Avalanche. Light lemon. L. Dec.....	Tall	Sept. 15	3.25
	Yellow Cushion. Light yellow. Cushion.....	Short	Sept. 15	3.00
P	Early Yellow. Deep lemon. Button.....	Short	Sept. 15	3.00
	Defiance (H). Golden yellow, Quilled petals. Dec.....	Tall	Sept. 15	3.50
	Golden Carpet. Golden yellow. Pom.....	Short	Sept. 15	4.50
	Ming. Orange yellow pom.....	Med.	Sept. 18	5.00
P	September Sunshine. Semi-double, bright yellow.....	Med.	Sept. 20	3.25
	Wychwood. Canary yellow. L. Pom.....	Med.	Sept. 20	3.25
	Canary Wonder. Canary yellow. Pom.....	Med.	Sept. 25	5.00
C	Charles Nye. Deep lemon. L. Pom.....	Tall	Sept. 25	3.25
P	Honeycomb. Golden yellow. Pom.....	Med.	Sept. 25	3.00
	Lee Powell. Chinese yellow. L. Dec.....	Tall	Sept. 25	5.00
P	Moonlight. Disbud. Bright yellow.....	Med.	Sept. 25	5.00
	Tangerine. Deep orange. L. Dec.....	Med.	Sept. 25	3.25
	Flaxen Beauty. Golden yellow. L. Dec.....	Med.	Oct. 1	5.00
	King Midas. Light lemon yellow. L. Dec.....	Med.	Oct. 1	3.00
	Chiquita. Deep lemon. Pom.....	Med.	Oct. 1	3.25
	Dwight Douglas (New). Golden yellow. L. Dec.....	Med.	Oct. 5	7.50
	Garland. Lemon. Sgl.	Short	Oct. 5	4.50
C	James Eadie. Deep chrome. L. Pom.....	Tall	Oct. 5	3.25
C	Polaris. Golden buff. Sgl.....	Med.	Oct. 5	4.00
P	Mrs. Rotan. Deep chrome. L. Dec.....	Med.	Oct. 5	3.25
	Vanguard. Golden. L. Pom.....	Med.	Oct. 5	5.00
P	Yellow Spoon. Light yellow Spoon variety.....	Med.	Oct. 10	3.50
	Golden Spoon. Golden yellow.....	Med.	Oct. 10	3.00
	Yellow Blanket. Bright lemon. Button.....	Med.	Oct. 10	3.25
	Bright Forecast. Lemon Pom.....	Med.	Oct. 10	4.00
P	Goldrush. Lemon yellow Sgl.....	Med.	Oct. 10	4.00
	Treasure. Golden. Pom.....	Tall	Oct. 10	4.50
P	Lemonade. Ivory yellow. Pom.....	Med.	Oct. 12	4.00
	Sweepstake. Lemon. Pom.....	Med.	Oct. 12	4.00
	Judith Anderson. Golden yellow. Button.....	Med.	Oct. 15	3.00
	Rodell Imp. Light lemon. Button.....	Med.	Oct. 15	2.75
	Yellow Irene. Light lemon. Button.....	Med.	Oct. 15	3.00
	Old Gold. Golden Pom.....	Med.	Oct. 15	3.25

Garden (HARDY) Varieties

BRONZE AND RED

	Name and Description	Height	Flowering Date	Price 50 Only
	Early Harvest. Mahogany-orange. Cushion.....	Short	Sept. 8	\$3.25
	Harbinger. Golden bronze. Dec.....	Short	Sept. 8	3.25
P	Early Bronze. Orange bronze. Button.....	Short	Sept. 8	3.00
C	W. P. Snyder. Apricot-orange. L. Pom.....	Med.	Sept. 10	3.50
	Autumn Song. Wine-rose. Dec.....	Med.	Sept. 10	3.25
C	Red Gold. Red and gold. Button.....	Med.	Sept. 15	3.25
	Orloma (New). Apricot bronze. Dec.....	Med.	Sept. 15	7.50
	September Bronze. Golden bronze. Frost resistant. Button.....	Med.	Sept. 20	3.00
	Goblin. Golden bronze. Pom.....	Tall	Sept. 20	3.00
	Red Glow. Dark red. Pom.....	Med.	Sept. 20	3.50
	Orsona (New). Red and bronze. Dec.....	Med.	Sept. 20	7.50
	Scarlet Crimson. Bright red. Dec.....	Med.	Sept. 20	3.25
	Mme. Cadillac (New). Raspberry wine.....	Short	Sept. 20	7.50
	Rouge Cushion. Bright red. Cushion.....	Short	Sept. 25	5.00
	Champion Cushion. Deep bronze. Cushion.....	Short	Sept. 25	3.00
	Commander Cushion. Best red Cushion.....	Short	Sept. 25	3.00
	Mahogany Cushion. Jasper red.....	Short	Sept. 25	3.50
	Marionette. Rust red. Pom.....	Med.	Sept. 25	4.00
	Holiday (H). Golden bronze Pom.....	Med.	Sept. 25	5.00
	Remembrance. Deep carmine. L. Dec.....	Med.	Sept. 28	3.50
C	Kathleen Lehman. Orange bronze. L. Dec.....	Med.	Sept. 28	4.50
	Fiesta. Orange rust Pom.....	Med.	Oct. 1	3.50
	Jubilee (H). Crimson. Pom.....	Med.	Oct. 1	6.25
C	Magnificent. Plum red. L. Dec.....	Tall	Oct. 1	3.50
	Red Riding Hood. Bright red; frost resistant. Dec.....	Med.	Oct. 1	3.25
	Sam Williston. Deep red. Cushion.....	Short	Oct. 1	3.00
CP	Bonfire. Bright red. Dec.....	Med.	Oct. 1	3.50
	Mogul. Orange rust. Pom.....	Med.	Oct. 1	5.00
	Brigadier. Plum red. L. Pom.....	Med.	Oct. 1	5.00
	Cardinal Spoon. Cardinal red, yellow tube. Spoon.....	Med.	Oct. 1	3.50
	Firecracker. Mahogany. Dec.....	Tall	Oct. 5	4.50
	Avalon. Orange bronze. Pom.....	Tall	Oct. 5	5.00
C	Cydonia. Mahogany red. L. Dec.....	Tall	Oct. 5	3.00
C	Meditation. Jasper red. L. Pom.....	Tall	Oct. 5	3.25
P	September Cheer. Cherry red. Sgl.....	Med.	Oct. 5	3.00
C	Burgundy. Wine red. L. Dec.....	Tall	Oct. 5	3.00
	Ruby Pompon. Ruby crimson. Pom.....	Med.	Oct. 5	3.00
P	Red Velvet. Dark crimson. L. Dec.....	Med.	Oct. 5	3.25
P	Mona. Rust bronze. Pom.....	Med.	Oct. 5	4.00
	Courageous. Dark ruby. Frost resistant. L. Dec.....	Med.	Oct. 5	3.25
P	Mrs. DuPont. Coral buff. L. Dec.....	Tall	Oct. 5	3.50
	Beacon. Coral apricot. L. Dec.....	Tall	Oct. 8	4.00
	Panorama. Orange rust. Dec.....	Tall	Oct. 8	5.00
	Aviator. Copper. Pom.....	Med.	Oct. 8	3.25
CP	Amber Glow. Rosy bronze. L. Dec.....	Tall	Oct. 8	3.25
	Miguel (New). Raspberry red. Dec.....	Tall	Oct. 8	7.50
	Mayford's Triumph. Scarlet bronze. L. Inc.....	Tall	Oct. 8	3.50
	The Chief. Scarlet and gold. Dec.....	Med.	Oct. 10	3.00
P	James Stewart. Apricot-gold. Pom.....	Tall	Oct. 10	4.00
	Huntsman. Scarlet orange. L. Dec.....	Tall	Oct. 10	3.50
	Caravan. Salmon bronze. L. Dec.....	Med.	Oct. 10	4.50
	Bokhara. Crimson. Dec.....	Med.	Oct. 10	3.50
	Blueblood. Amaranth red. Dec.....	Tall	Oct. 10	4.50
PC	Carnival. Burnt orange. L. Pom.....	Med.	Oct. 10	3.50
C	Carmine Queen. Carmine. L. Pom.....	Tall	Oct. 10	4.00
	Orpheus (New). Roman red. L. Pom.....	Tall	Oct. 10	7.50

Garden (HARDY) Varieties

BRONZE AND RED—Continued

Name and Description	Height	Flowering Date	Price 50 Only
P Bamboo. Buff orange. Sgl.....	Tall	Oct. 10	\$4.00
P Calico. Coral bronze. Sgl.....	Tall	Oct. 10	4.00
Fireside. Burnt orange. Dec.....	Tall	Oct. 10	4.00
Nytoda. Golden apricot. Sgl.....	Med.	Oct. 12	5.00
Admiral. Dark red. Dec.....	Med.	Oct. 12	4.50
Fashion. Salmon and rosewood. Dec.....	Med.	Oct. 12	4.00
P Witchery. Golden bronze. Dec.....	Med.	Oct. 12	4.00
Nokomis. Reddish bronze. L. Dec.....	Med.	Oct. 12	4.00
Nocturne Crimson. Pom.....	Med.	Oct. 12	4.00
Robinhue. Dark red. L. Dec.....	Tall	Oct. 15	4.00
C Bronze Pyramid. Orange bronze. L. Dec.....	Tall	Oct. 15	3.25
Detroitier. Red-bronze. Pom.....	Tall	Oct. 15	3.50
P Carmelita. Apricot bronze. L. Dec.....	Tall	Oct. 15	4.00
Cocktail. Salmon bronze. Pom.....	Med.	Oct. 15	4.50
Rajah. Scarlet. Sgl.....	Med.	Oct. 15	4.50

PINK

Name and Description	Height	Flowering Date	Price 50 Only
Gladness. China rose. Dec.....	Short	Aug. 28	\$3.50
Cecil Beed. Deep lavender. Dec.....	Med.	Sept. 1	5.00
C Dr. Longley. Rose pink. Dec.....	Med.	Sept. 1	4.00
Salmon Precose. Salmon pink. L. Dec.....	Short	Sept. 1	3.50
Welcome. Mallow-purple. Sgl.....	Med.	Sept. 1	3.00
Purple Star. Star appearance. Dahlia purple. Pom.....	Med.	Sept. 5	3.00
C Barbara Small. Pinkish lavender. Pom.....	Tall	Sept. 10	3.25
C Nye's Favorite. Lavender. Dec.....	Med.	Sept. 10	3.50
Orchid Helen. Orchid lavender. Dec.....	Med.	Sept. 10	4.50
Chippewa. Bright purple. L. Dec.....	Med.	Sept. 15	3.25
Royal Robe. Purple. Dec.....	Med.	Sept. 15	6.25
C Violet. Amaranth pink. Pom.....	Med.	Sept. 15	3.25
Fairbow. Lavender pink. Pom.....	Med.	Sept. 20	3.50
Tapestry. Bright pink. L. Dec.....	Med.	Sept. 20	4.50
Heather Bloom. Heather pink. Dec.....	Med.	Sept. 20	3.00
Alert. Dark purple. L. Dec.....	Med.	Sept. 20	3.50
Major Cushion. Lavender. Cushion.....	Short	Sept. 25	3.00
Olive Longland. Apricot-salmon. L. Dec.....	Med.	Sept. 25	2.75
C Spellbound. Lavender-pink. Dec.....	Med.	Sept. 25	3.25
Capt. J. Smith. Lavender-pink Cushion.....	Short	Sept. 25	3.00
C Pink Beauty. Salmon pink. Dec.....	Med.	Sept. 25	3.00
September Dawn. Rose pink. Dec.....	Med.	Sept. 25	3.00
Imp. Early Wonder. Deep lavender. Pom.....	Med.	Sept. 25	3.00
Rosita. Lavender rose. Button.....	Med.	Sept. 28	3.25
Pink Opal. Persian rose. Pom.....	Med.	Sept. 28	5.00
C Betty. Pink, rose center. L. Dec.....	Tall	Sept. 28	3.25
Misty Maid. Light pink. Dec.....	Med.	Sept. 28	3.50
Malinda Brown. Lavender rose Pom.....	Med.	Sept. 28	6.25
C Pat. Lehmann. Peach pink. Dec.....	Tall	Sept. 28	4.50
Fascination. Lavender pink. L. Dec.....	Med.	Oct. 1	6.25
Myrtle Walgreen. Amaranth purple. L. Pom.....	Med.	Oct. 1	3.50
P Tiffany Rose. Deep rose. Sgl.....	Med.	Oct. 1	3.00
Alex. Cummings. Deep rose. L. Dec.....	Tall	Oct. 3	6.25
Enterprise. Amaranth. Pom.....	Tall	Oct. 5	5.00
Pink Surprise. Lavender. Dec.....	Tall	Oct. 5	3.50
P Lavender Lady. Lavender pink. Dec.....	Tall	Oct. 5	3.50
Dream Girl. Light lavender. Pom.....	Med.	Oct. 10	3.50
Argonne. Dark lavender. Pom.....	Med.	Oct. 10	3.50

Garden (HARDY) Varieties

PINK—Continued

Name and Description	Height	Flowering Date	Price 50 Only
Courtier. Lavender pink, Dec.....	Med.	Oct. 10	\$4.50
Lassie. Dark pink, L. Dec.....	Med.	Oct. 10	4.50
Orchid Spoon. Orchid lavender, Spoon.....	Med.	Oct. 10	3.50
Rose Spoon. Lavender rose, Spoon.....	Med.	Oct. 10	3.00
Masquerade. Lavender rose, Pom.....	Med.	Oct. 10	3.50
Joybringer. Salmon rose, Dec.....	Short	Oct. 10	4.00
Winsome. Lavender purple, L. Ref.....	Tall	Oct. 10	3.50
Sweetheart. Light lavender, Sgl.....	Tall	Oct. 10	4.00
Serenade. Magenta Sgl.....	Tall	Oct. 10	4.00
Elizabeth Hood. Lavender pink, L. Dec.....	Med.	Oct. 12	5.00
Salute. Deep orchid, Sgl.....	Tall	Oct. 12	4.00
C Allegro. Shrimp pink, Pom.....	Tall	Oct. 12	3.25
Adagio. Raspberry rose, Pom.....	Tall	Oct. 12	4.00
Dawn Rose. Grenadine pink, L. Dec.....	Med.	Oct. 15	3.50
Symphony. Mauve and lavender, Dec.....	Tall	Oct. 15	3.00
P Jewell. Lavender pink, Pom.....	Med.	Oct. 15	3.00
P Dark Jewell. Lavender pink, Pom.....	Med.	Oct. 15	3.00

THIS TABLE INDICATES PRICES FOR MORE THAN 50 OF A VARIETY ON ONE SHIPMENT

50 Only	100-250 Per 100	300-450 Per 100	500-950 Per 100	1000-2450 Per 100	2500-up Per 100
\$2.75	\$5.20	\$4.95	\$4.65	\$4.40	\$4.10
3.00	5.70	5.40	5.10	4.80	4.50
3.25	6.15	5.85	5.50	5.20	4.85
3.50	6.65	6.30	5.95	5.60	5.25
4.00	7.60	7.20	6.80	6.40	6.00
4.50	8.55	8.10	7.65	7.20	6.75
5.00	9.50	9.00	8.50	8.00	7.50
6.25	12.00	11.50	11.00	10.50	10.00
7.50	14.50	14.00	13.50	13.00	12.50

SPECIAL COLLECTIONS of GARDEN VARIETIES

SPECIAL OFFER No. 1

500 rooted cuttings, our selection; 50 each of 10 taller varieties for cutting. **\$25.00.**

SPECIAL OFFER No. 2

500 rooted cuttings, our selection; 50 each of 10 medium to short varieties for pots or bedding. **\$25.00.**

SPECIAL OFFER No. 3

500 rooted cuttings, our selection; 50 each of 5 varieties for cutting, 50 each of 5 varieties for bedding. **\$25.00.**

Garden Varieties for Pot Plants

Consider the Garden Mums as spring pot plants. The collection described at the left consists of varieties particularly suited to spring pot plant forcing. The obvious selling point is that these flowering pot plants may be pinched back and planted outdoors for fall flowering in the garden.

See page 41 for complete directions for handling Garden varieties for May pot plants.

POT PLANT COLLECTION

Special Offer No. 4

500 Rooted Cuttings for Mother's Day
Our Selection

Price, 500 cuttings.....**\$25.00**

IMPORTANT: ABSOLUTELY NO CHANGES ON YOUR ORDER CAN BE ACCEPTED WITHIN 30 DAYS OF DELIVERY DATE.

Chrysanthemum Culture

By Vic Ball

TRENDS

Mums, along with Snaps, are the mainstay of the cool house crops, both for retail and market growers. The many interesting new developments in Mum culture are doing much to help growers produce better Mums with less effort—and for a better return.

Highlights:

1. *Out-of-season Mums* are spreading the Mum crop out over a longer period—away from the gluts. Many retail growers are reaching into August-September flowering with black cloth shading. For the wholesale specialist and larger retail growers, spring and summer flowering has much to offer. Three-crops-a-year production is for the specialist, and is being done more than ever before. It is a close, efficient rotation, a steady work load (plant-pick every month of the year), and high return per foot, \$3.00 or better. We are planning such crops for many growers already; write if interested.

We also mail a monthly circular giving schedules, varieties, etc. for off-season Mum planting—in the northern states.

Full details on off-season flowering both pot and cut flower Mums will be found on page 28.

2. *Direct benching, rapid growth.* Growers are realizing the remarkably rapid headway a good soft cutting will make in good soil. Instead of 6-7 months, modern growers bench cuttings direct, grow single stemmed (no pinch)—and cut excellent Poms and Mums in as little as 90 days after planting (longer in winter). Under favorable conditions, we have had cuttings grow to 33 inches in 38 days. Lots less work, too!

3. *Labor-saving angles.* Are you using them? In our experience the following are generally practical:

Hose-boy watering—reel-type device that pulls sled up the walk. It does the job! Write for details.

Liquid feeding. Injectors such as Smith Fertil-ade, Smith Equipment & Supply Co., 1615 N. Central Ave., Chicago, Ill., or Delta Dispenser, Delta Dispenser Mfg. Co., 8529 E. 11th St., Downey, California; or with Hozon, Plant Marvel, 12050 Parnell Ave., Chicago 38, Ill.

We have been having excellent results simply using dry fertilizers in our insecticide sprayer—with tip removed from nozzle. Fast and cheap. We use German potassium nitrate at 18-20c per lb. (Schramm Greenhouse Supply Co., Lee &

Overhead pipe supports for "igloo" type sateen shading. The inch pipe cross members rest on edge of bench (welded to a 12 inch piece of 1x1 angle iron). #18 wires are stretched lengthwise across top of framework. Sateen lies on the wires. In the morning, it is picked up from the sides to form a long roll at top. Advantages: by far faster and easier than other ways, and saves cloth, too!



Oakton Sts., Des Plaines, Ill.) Dilution: 2 lbs. potassium nitrate per 20 gallons of water per 500 sq. ft.

Igloo Shade. Applying sateen over an igloo shaped frame covering 2-3 beds is much less work, takes less cloth, and is easier on the cloth, too. See photo above.

Stem cleaner. Whips leaves off lower stem in a flash!

Supports. Single layer of wire-string moved up regularly does the job OK. Why use 2-3 layers? New type all wire mesh being used in California looks promising—eliminates string and stringing. Write Northern California Hardware and Steel Co., 209 Mississippi St., San Francisco 7, California.

GOOD MUM CULTURE

What's a Good Mum Soil?

It makes very little difference whether your soil is sandy or heavy, yellow or black. The tip-off in picking soils for greenhouse use: is it producing good stands of field crops? A soil that grows good corn or wheat will grow good Mums—if handled right. Of course, sandy soils need a lot more water and more frequent and heavier feeding.

Most any field soil will do a better job of growing if 1½ inches of rotted cattle manure or of peat is plowed into it. If a soil seems "tight" and poorly aerated, and gives retarded, hard growth, add 2 inches of peat or manure, or a combination. We have seen 2 inches of peat open a very heavy, tight soil so well as to grow excellent Mums. Where soils are used repeatedly, an inch, or better half an inch, of peat or manure can be added between each crop to advantage. Soils can be made sticky with too much peat!

Most soils will benefit by the addition of 5 lbs. per 100 sq. ft. of 20% superphosphate yearly. It can do no harm. Beyond that, we add no fertilizers till the crop is in active growth.

Good drainage is essential—cracks in the bottom of benches that are open even when the boards are wet. On ground beds, where the sub-soil is heavy, one or two lines of 4 inch clay tile should be dug under each bed.

One or two cultivatings as the crop is starting into growth will help on soil aeration. It pays.

About sterilizing: we steam fresh field soils before using them. In general, where soil is used for Mums-Snaps-Stocks, etc., we steam once a year. We've seen Mums grown continuously for two years without steaming the soil. Of course, if soil-borne insects show up, they must be cooked. Likewise, if a lot of verticillium or stem rot appears on Mums, we would certainly steam before replanting to Mums. In other words, on all crops, we steam before planting if steaming will control a disease we have reason to expect trouble with.

Meet "Hoseboy"—in our several months' experience with it, it seems a practical way to water Mums mechanically. The 150 ft. of hose is laid down the walk. At the far end is the "sled"—two nozzles rising from it. As drum (foreground) reels hose up, the sled is slowly drawn in. It works! Henry Jacobsen in the photo.





Steaming — to 180° — does a lot of good things to your soil. It cleans up disease organisms, it kills soil-borne weed seeds, insects. Besides this, it tends to improve the physical condition.

We use the Thomas method (surface steaming) well described in a Cornell University Bulletin on the subject. Write the Dept. of Floriculture, Cornell University, Ithaca, New York. Soil must be heated to 180° for 30 minutes; on ground beds it should be heated to a depth of 8 inches to do a job. Some soils give "after sterilizing" troubles if planted immediately after steaming. Symptoms: retarded, slowed, yellowish growth, poor roots. Cure: a very heavy, thoro leaching (or two). Turning the soil with forks helps. Some schools recommend 4-5 lbs. per 100 sq. ft. of gypsum before planting. It could do no harm, and may help the soil recover from the "steaming miseries." Usually with a week or 10 days of leaching and waiting, you are safe. Some soils are OK the same day they are steamed. Actually, recent experience leads us to believe that it is less dangerous to bench cuttings immediately after steaming than to wait a week or two. Apparently, waiting 10 days allows time for the toxins to build up.

Chemicals will kill soil insects, but are questionable in control of diseases.

A word about excess salts: Every so often a grower complains of a gradual hardening and yellowing of his Mums—"just won't grow" is the usual conclusion. A Solu-Bridge test in 20 minutes shows that there is a serious excess of *all salts* in his soil. How did it get that way? Well, a very hard water can contribute large amounts of sulfates, carbonates, calcium. A too-heavy fertilizing program will cause build-up of nitrates, potash, etc. Some soils are naturally "saline"—or loaded with salts. Some such soils can be cured by heavy and repeated leaching; others must be abandoned.

Bench a Good Cutting

Certainly good Mums can't be grown unless the cutting used is grade A in every respect. They often aren't. Here are some points we find important:

1. The cutting must be well rooted (roots an inch or so), but it must not be left in the sand too long. A week too long will harden and check it, and will surely give a slow starting plant.
2. The cutting should be fat and succulent, not thin, hard and wiry. The first several batches from a bed of stock make the best ones.
3. Cuttings must be free of disease and insects. Several important diseases are not apparent on the cutting. Good propagating specialists carry out programs of culturing and isolating their stocks against such diseases.

The great majority of growers today depend on such specialists for their cuttings. We recommend it.

About Insects and Diseases

As we see it, it's more a question of setting up good routine control programs that will eliminate the common insect-disease troubles. It has been our experience that application every two weeks in summer, every month in winter, of a spray combining

Parathion and wettable sulfur with a spreader will eliminate most of the common Mum insect and disease problems.

We have had to use Parathion aerosol bombs to combat thrip on open flowers several times this summer. A Parathion-water spray can be used on open flowers, but Aerosol seems faster, more effective, less apt to injure petals.

Here are dilutions for the spray:

Per 10 Gallons of Water

- 2½ ounces Parathion, 15% wettable powder.
 - 2 ounces fermate.
 - 3 ounces wettable sulfur powder
- plus spreader.

The *Parathion* is the insecticide, and the most effective and versatile one we've ever used. It will give excellent control of the following pests if used regularly: red spider, aphid (green fly), midge, thrip, mealy bugs, tarnished plant bug, leaf tier, cut worm and leaf miner. It will also give excellent control of the leaf (foliar) nematode, since it penetrates the leaf tissue. It has a residual effect, making it effective for several days or more after spraying.

The *fermate* is an excellent general fungicide. Mainly for Mums, it is aimed at leaf spot (septoria).

Sulfur is particularly effective against mildew.

This can be used without injury to Mums at any period *except*—crops showing color or with open flowers, better use Dithionon in aerosol bombs in such cases.

Jobs the above spray *won't* do:

1. *Stunt*: a virus that results in dwarfing to about half normal stem length and flower size, and yellowing of flowers on bronze and pink varieties. Foliage is slightly lighter, duller green. Stunted plants flower noticeably earlier than plants not affected. Control involves an extremely tedious selection and isolation process which is being carried out most carefully by the specialist-propagators. Once a plant is infected, there is no control. Typical stunt affects a relatively small percentage of a variety scattered at random thruout the bench. There is no drying or browning of foliage.

2. *Stem rot*: rotting off of plants at the soil surface—quite similar to the stem rot of Stocks. It appears only during the hot part of summer. Steaming of soil helps. Shallow planting of cuttings and keeping bench a little on the dry side till plants are established both help. Even during summer, a little "heat and air" at night will help. Benching a few extras permits replacement of casualties.

3. *Petal spotting*. Heat and air even during summer, especially at night when humidity is high, will help a lot. Flowers must be kept dry as they open. Parzate spray applied to the flowers weekly from the time color shows helps—be sure flowers dry off from spraying before nightfall. Worst on standards and especially Mefo and Betsy Ross. When shading during hot weather, drop sateen from 7 P.M. till 9 A.M. to avoid shading during afternoon heat. For more details, see GROWER TALKS, Sept. '50, page 20.

4. *Verticillium* (Seidewitz Disease). Causes browning, drying up of leaves. Main control: culturing of cuttings, which is done by specialist propagators, and steaming soil. Also, when this or other foliage diseases threaten, avoid wetting foliage.

Ed. Seidewitz, pink Mum, Yellow and White Shasta Poms are among the more susceptible varieties.

5. *Dodder*. There's nothing quite so bad once it gets started! It is a pale green parasite-vine that grows all over and between Mum foliage and stems. It fastens itself securely to the plant and sucks the life from it.

It is far cheaper to simply pull out and burn any infected plants. Do it promptly; it spreads very fast.

A word on aerosol bombs. They will get most insects, and they're labor savers. For the smaller miscellaneous grower,

tho, there is a case for spraying, using the Parathion mixture described on page 25. Reasons:

1. At least in our experience, the temperature manipulation needed for good bombing encourages mildew. It's the temperature drop that's bad.
2. When you bomb, you bomb everything—including the Kalanchoe, the ferns and the proprietor's quarters, too, where they're connected to the greenhouses.
3. Bombs are not cheap. Much of what they save in labor, they lose you in cost of bombs, nozzles, protective clothes, etc.
4. Spraying, if done regularly, is absolutely effective.
5. (And most important). We would probably carry on a regular spray program with sulfur, fermate, etc. for diseases, so why not add Parathion powder and do the whole job at once? We do.

Miscellany

Let's include here the details of caring for the crop:

When to Bench? A good general rule is to bench cuttings three weeks prior to the date given in the catalog for pinching. Dates for benching of shaded and lighted crops are included in the schedules. Pinch once, on the date given in the catalog. If plants haven't made several inches of new succulent growth, wait till they have. Always pinch into soft growth.

Watering Mums. Once a Mum crop has really started to grow, it would be hard to overwater it, especially on raised benches. Dig down below the surface; take a handful of soil, wad it up. If, when you drop the ball, it breaks apart, the soil is ready for water.

Mums like and respond to a "wetting down" of the foliage on hot summer afternoons. Lay off, tho, if any leaf diseases appear.

Premature Budding. Occasionally a variety or two will go to bud shortly after benching, on worthlessly short stems. It is most likely to happen on cuttings received early (February-March) and on the earlier flowering varieties. To prevent it:

1. Keep plants cool as possible, not over a 50° house.
2. Apply lights 2½ hours nightly thru September, 3 hours thru October, 4 hours thru November, 5 hours thru December and January, 4 hours thru February, 3 hours thru March, and 2 hours thru April—starting the day you receive the cuttings.
3. Keep growth soft as possible—ample water, adequate feeding.

Worst varieties for early budding: Blazing Gold, Legal Tender, Masterpiece, Silver Sheen, Constellation, Seneca and the hardy varieties as a class.

The Feeding Program. Starting within several days of benching, we give them a light application of a balanced liquid fertilizer every several weeks in summer and fall, less often in dark weather. Sandy soils require more feeding. Occasional soil tests are of real help in use of fertilizers. We like to keep nitrates, potash, and phosphates all in the medium range.

About pH: slightly acid (pH 6.8) to neutral is about right for Mums in our experience. In applying sulfur sprays to the foliage, you will eventually get enough on the soil to start driving the pH down. Tests will show this, and it can be quickly corrected with lime.

Mulching Mums. Mums will respond very nicely to a half inch or so mulch of peat, especially during the warm months. It saves watering, seems to keep the surface soil from getting too hard. When the crop is out, you can plow this peat right into the soil where it will help the next crop, too.

"Taking" (or leaving!) the Bud—on Big Mums. In late summer you will find one of two types of growing tips on the plants:

1. CROWN. A flowering bud surrounded by non-flowering vegetative shoots.

2. TERMINAL. A flowering bud surrounded by flowering buds.

Early Mums will usually throw a crown bud in August. This is usually removed and one of the vegetative side shoots "selected" or left to grow on. All other shoots are removed. Some plants may produce another crown which may again be discarded in favor of a non-flowering shoot. Sooner or later, all plants produce a terminal, the center bud of which is left—to produce the flower.

On early varieties it's safest to remove all crowns up to August 20. Early crowns are O.K. to leave on some shaded Mums. On mid-season sorts, terminals are safer. Final bud should have been selected by September 1-10; on late ones a month later. Your experience is the best guide. Keep notes.

On single stemmed or unpinched crops of standard (big) Mums, always leave the center one of the first cluster of buds to appear. If the side buds surrounding this bud are not removed promptly, they will rapidly grow beyond the center bud. You will then have to leave one of the stronger side buds and remove the center one—and you will have a "dog leg" stem. Unpinched Mum crops must be checked over twice a week without fail to avoid this loss.

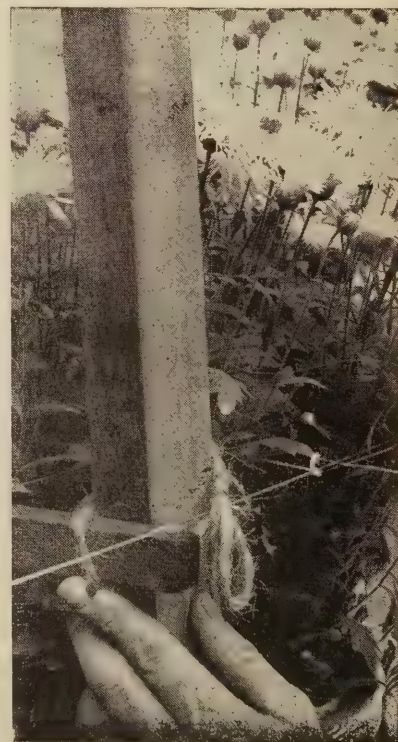
Cutting the flowers. One big point: start as the bench is just a bit on the too green side, and cut regularly every day so that the whole bench will be off before any part of it is old. Old or pickled flowers will be older yet when they reach the market—worth little or nothing.

Spacing—crops that are to be pinched (both Mums and Poms) are normally spaced 7 x 8 or near to that. On this spacing, Poms are usually pruned to leave the three strongest stems, big Mums the best two (or three depending on your market).

Supports—Why Three When One Does It? Years ago, the style was to grow Mums or Poms 4-6 ft. tall or more and provide 2, 3 or even 4 layers of wire and cross strings. Mums were strung individually to an over-head wire—or staked.

We find it perfectly practical, and a great economy in time and material, to support both Mums and Poms with a single layer of wire-string. This assumes proper scheduling of the crop so that it will not exceed 3-3½ ft. in height. It also

One layer of wire-strings should handle Mums or Poms—if moved up regularly. We handle this by tying the cross-piece, then driving a 2-inch nail just below it to prevent slipping down.



requires that this one layer of wire-string be capable of being raised weekly as the crop grows. If the plant is anchored at the ground, and at it's top, what can it do but stand up straight?

The end supports on our beds are of inch pipe. The intermediate supports on down the bench are spaced every 17 ft.; uprights are 1 x 2 and cross members are 1 x 1. Wires are stapled down to the 1 x 1. The 1 x 1 is fastened to the upright 1 x 2 by tying it with binder twine. To insure against it's slipping down, we drive a 2" nail below the 1 x 1 and only part way in so it can be raised weekly. See photo on opposite page.

In our early trials with this one layer support idea, we had one fine bench of Illini Snowdrift that tipped over on its side! Since then we have strengthened the supports, put them closer—and had no further trouble. By the way, we got the Snowdrift back up on its feet without any serious injury.

Best Temperatures: During firing season, normal flowering fall Mums have always been considered a 50 degree (nights) crop—58 cloudy day, 65 sunny day. For no-shade, no-light crops that flower up to December this 50 degrees will do, since bud setting takes place during the warmer days of August-early September. However, even normal flowering date crops that flower during December-early January had better be carried at least 55 until buds are in sight; otherwise some blindness may occur. Many a bed of Garza has turned out ¼ blind—too cold.

Growers on tight 3-crops-a-year-schedule carry 60 degrees minimum thruout the year to insure bud set, and to be sure buds will develop and open timely so as not to delay the next crop. See page 28 for details.

THE CLOTH HOUSE PROGRAM

It has been our experience that, with careful culture, Poms flowered outdoors under cloth during August-September are *clearly superior to those grown under glass at that time.* We're talking about Midwest and Eastern areas now.

Of course, our late summer markets are always generously supplied with what are tagged "outdoor" Poms—hard stems, dried up foliage, and poor, dirty flowers. However, the much cooler temperatures, especially at night, and the ample fresh outdoor air, if combined with *careful growing*, are substantial advantages to outdoor growing over hot greenhouses. Certainly costs are lower. Fading of colors is much less of a problem outdoors.

Cloth house Poms can be flowered all the way from early July till well into October. The early July crop is produced by benching a 2½ inch banded plant outdoors May 1, protecting it from early frost with sateen cover and a steam pipe if necessary. Cuttings should be banded about 30 days before benching date. Single stemmed culture is followed. Poms may be flowered to mid-October by the same combination of sateen and heat. The regular "off-season" timing schedules (page 30) are used to plan cloth house crops.

Since few quality cut flower varieties normally flower before frost date, most growers of cloth house crops use later varieties shaded with black sateen.

Large flowering standards are occasionally grown under cloth, but due to petal rot are a definite gamble. Hard varieties are best—Good News, Detroit News, Blazing Gold. By careful selection of varieties, excellent pot Mums may be grown under cloth.

Cloth house Poms are grown over most of the United States—heaviest in the Midwest, East and California. In almost any location, Aster cloth (or Seran) protection is a "must" for quality.

The Disease Problem

Because rains keep foliage wet, and tend also to spread disease spores (through splashing), such problems as Verti-

cillium, Septoria, and Mildew are more serious outdoors than under glass. Insects tend to be more troublesome, too, because there is no glass barrier to keep them from blowing into the beds. It all adds up to an even more thorough preventive program.

First, disease-free cuttings are a must—especially must they be cultured against Verticillium. Second, if at all possible, soil should be steamed. As a second choice, don't grow Poms too many seasons on the same land. Third, if foliage diseases are giving trouble, carefully avoid wetting foliage while you water—rains will wet it enough!

And lastly: A regular weekly spray program to include Parathion, Fermate, Sulfur, and a spreader. See page 25. Kept up weekly, this will go a long way to keep cloth house Poms clean.

Quite a few cloth house growers are turning to plastics such as Seran in place of Aster cloth. The 20 threads per inch grade of Seran clear, not green, will grow good Poms. It is not as effective an insect barrier as the 20 thread per inch cotton—lacks the fuzziness. But in a Mum house where regular spraying is kept up, the insect problem shouldn't be serious. Seran will last 3 to 5 years or more, so is an economy in the long run.

Heated Cloth Houses

Because we have "cool summers" every several years, and because low July-August temperatures delay and interfere with bud setting, several growers are running a few heat lines through their cloth houses. Every several seasons we hear of a lot of cloth house Poms that set bud, then start in vegetative growth again, and in other ways produce defective sprays. Certainly the grower equipped to keep at least 55 degrees and preferably 60 degrees in his cloth house is going to get a more uniform product over the years.

When such heat is used under cloth, the black sateen is rolled down to keep the heat down on the plants.

Schedules and Varieties for Cloth House

The regular Off-Season Mum schedules that start on page 30 may be used for timing cloth house crops. The schedules for late July, August, and September flowerings start on page 32.

Not all varieties stand cloth house conditions. The following are recommended for late July, August and up to the September 28 flowering:

White: Shasta 10W Shooting Star 9W Belray 12W White Popcorn 9W Keepsake 9W Pinocchio 9W *Encore 10W Snowdrift 10W	Yellow: Mary L. Hall 10W Yellow Shasta 10W Gold Coast 9W Golden Herald 9W Sunup 9W Schneeburg's Daisy 9W
Bronze: Beauregard 10W Chevron 10 Paragon 10W Buckskin 10W Butterscotch 10W Thelma 11W	Pink: Reward 9W Jessie 9W Pink Dot 9W Pandora 10W Linda Lou 10W Memorial 10W

For flowering Sept. 28 or later under cloth all the 10 week (10W) varieties above may be used—plus the following:

White: Belray 11W Highbrow 11W Crystal Beauty 11W Sculpture 11W	Yellow: Golden Chord 11W Lollipop 11W Klondike 11W
Bronze: Thelma 11W Rusticon 11W Bronze Minuet 11W	Pink: Grand Slam 11W Pinky 11W Minuet 11W

*For single stemmed culture, bench cuttings 1 to 2 weeks before shading. For pinched crop, shade 1-2 weeks after pinch (Encore, only).

OFF-SEASON MUMS

Years ago, Mums were flowered only during late fall—"normal season." In the thirties black cloth shading came into commercial practice—and good Mums came onto the markets during September and early October. The past five years have seen large scale use of lighting and now Mums are becoming an accepted spring and early summer flower—and even winter too.

Why have growers been so anxious to extend the Mum season? Mums have been in ample supply—sometimes surplus during the fall, but have been in demand and at good prices during spring and summer and even September. Furthermore, retailers like spring and summer Mums well because they will keep (often two weeks)—and because of the wide variety in color and form they provide. A *Gladiolus* is a "Glad"—different colors, yes. But consider the endless variety in Mums—from tiny white Pinocchio to giant 6-7 inch Mefo's—and the delicate spiders such as Queen's Lace that are enjoying so much popularity!

Off-season flowering is no more difficult than many other cut flower crops. The rules are well defined. To succeed, the grower must, however, be prepared to provide the temperatures, accurate day length control (shade and lights), and will do best by staying close to prescribed varieties at least until he has had some experience. Note, too, that all these schedules are based on *rapid, unchecked growth*—good porous soil must be provided, plants must be well watered, fed regularly, kept free of insects and diseases. And remember, no Mum crop can succeed unless good, soft, clean, well-rooted cuttings are used.

Off-Season Temperatures

Temperatures for winter and spring flowering must be considered by growth periods:

1. *From benching till you start short days (lights off or start shading date):* A 60° minimum is best; 55° will do, but at 50° nights, growth will be slowed and stems too short on these schedules.

2. *Bud formation period*—starting with "lights off" or the "start shading" date and until buds are definitely formed (Pomps should show color). Temperature thru this period must not be below 60°. At 55° nights some varieties will be more or less blind; also at lower temperatures you will get fewer florets per spray. We recommend holding night temperature at 63° instead of 60° to allow for cold ends of houses.

3. *After buds form*, and until flowers are cut: crops that are flowered in the winter period (Mid-December to March) are apt to be soft and of poor quality unless dropped gradually to 55 or 50 degrees as soon as color shows. This depends some on amount of sun—the more sun, the higher the temperature which may be carried. Normally late varieties like Cameo and Vibrant can be finished at higher temperatures than earlier ones like Gold Coast.

"50 degrees" here means 50 degrees at night, 58 on cloudy days, 65 on sunny days. A 60 degree house should be 65 on cloudy days, 72 on sunny days (or 75°).

4. *The miscellaneous grower*—planning only a bed or two of off-season Pomps in his 50° house—can't provide these carefully adjusted temperatures. We have seen good Pomps finished all the way from Easter till summer in 50° houses. If cuttings are benched a week or two early it will offset the short stem problem. During actual bud formation, the 60° temperature is provided at night by covering the bed with black sateen cloth and turning pipes on below it. Rather questionable for crops flowered between January and April. Worth noting here: growers not experienced with off-season Mums will find the spring and early summer an excellent time to try first. For

many reasons, they are easier to flower thru May, June and July than they are in January-February-March. And June Pomps have so far brought fair returns.

Which Varieties?

As any grower knows, the more of any one variety that is produced in a given week, the less it will bring per bunch. Splitting your planting up among more varieties is more trouble, and means growing some that may not seem perfect to you—but it will pay in \$\$\$ returns.

The problem then, is to find enough suitable varieties for each flowering period. With this problem in mind, we have tried to broaden the number of varieties recommended in each period and for each color. We urge growers to at least try out a wider number of varieties—you will always find some better than others, and very likely your choice of best in each color may not agree with our experience.

Correct Spacing of Plants

First, for pinched crops: both Standards and Pomps, 7 x 8 or 8 x 8 inches is about it, with perhaps some allowance for varieties as you get to know them. For single stemmed (no pinch) growing, we find 5 x 6 inches close enough for both Pomps and Standards. Some growers follow the idea of closer spacing during summer (4 x 7, or even 4 x 6 for Pomps, for crops to flower from June 1 to October 1), and farther apart during winter flowering (6 x 6 for Pomps). As we see it, there's just as good a case for a uniform 5 x 6 inch spacing thru the year.

Percentages of Colors

Here are the percentages we use for the Chicago market:

Percentage of Pomps and Standards—by Flowering Periods

	Jan.-April	May-Sept.	Oct.-Dec.
% Pomps	75	90	60
% Standards	25	10	40

Note: Standards may be flowered thruout the summer and fall period. However, in our experience, the occasional hot spells that occur in our latitude are apt to burn petals and fade colors of bronze and pink varieties badly.

Color Percentages of Pomps—by Flowering Periods

	Jan.-March	April-May	June	July-Aug.	Sept.-Oct.	Nov.-Dec.
% White	50	55	60	40	35	40
% Yellow	30	30	30	40	35	20
% Pink	15	15	10	10	5	10
% Bronze	5	—	—	10	25	30

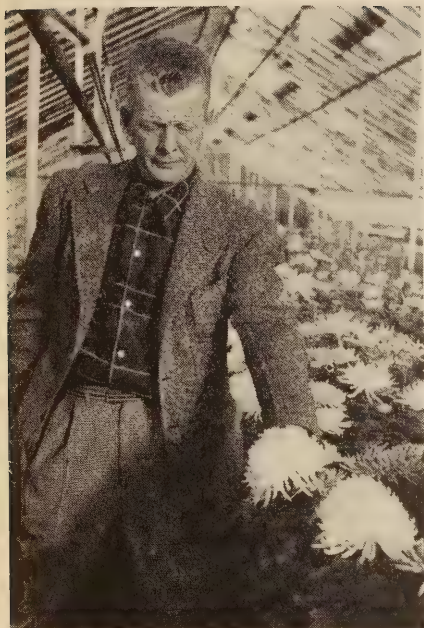
Color Percentages of Standards (Mums) by periods

	Jan.-March	April-May	June	July-Aug.	Sept.-Oct.	Nov.-Dec.
% White	60	55	60	45	25	45
% Yellow	30	30	30	45	40	20
% Pink	10	15	10	—	—	5
% Bronze	—	—	—	10	35	30

About Single Stemmed Mums

Each of the schedules gives dates for both pinched and unpinched culture. Why single stemmed Mums?

After several season's experience with unpinched crops, we believe that, while there is added cost of cuttings because of the closer spacing, there are advantages that more than offset this cost—on *some* crops. First, you save 3-5 weeks' time by eliminating the pinch. Production seems generally some better; sprays seem to form up better, especially in winter and spring.



Mr. C. R. Vance of Princeton, Ill. Seen with a house of Indianapolis Mums (as of Feb. 26.) They were grown in a Carnation house temperature—but few varieties will set buds reliably at 50 degrees.

A good example: cloth house Poms if pinched can't be flowered before Labor Day. A single stemmed crop planted May 7 flowers August 7—and on our market last year they brought 30c per bunch more than in September. Where you are figuring a tight rotation in the greenhouse this saving of 3-5 weeks might mean getting an extra crop in. Single stemmed culture is a must on 3-crops-a-year Mum growing.

Where standards (big Mums) are grown single stemmed, in practically all cases, the first center bud that appears should be left on and allowed to develop. Removal of side buds must be done before they over-grow the center bud!

Try it!

Lighting Details

The purpose of lights on winter crops is to delay bud formation till sufficient stem has developed. If you are getting premature bud formation at the corners (farthest away from the bulbs), your light intensity is too low. Best way is to check with a light meter—can be borrowed from your Public Service Company or electrical contractor. 10 foot candles minimum is ample, we shoot for at least 7 all over; one large grower works on an absolute minimum of 5.

For single 4 ft. beds, one string of 60 watt bulbs with reflectors spaced 4 ft. apart and 3 ft. above plant tops is adequate. Where two beds are to be lighted together, one string of 100 watt bulbs with reflectors does it. A string of 150 watt bulbs will handle three 3½ ft. beds for us.

To reduce sizes of electric mains, the area to be lighted can be split in half. The first half is lighted the required number of hours *before* midnight; the second half gets the same number of hours light *after* midnight. Also 230 volt lines will help reduce main sizes on some installations. Consult your electrician.

Some growers fasten 150 watt or larger "self reflector" bulbs to the roof of the houses, lighting the entire house.

Round the Clock Mums

Three crops a year on one bench are being produced by quite a few Mum growers around the United States and Canada. That's a story in itself! Write us for our three-crops-a-year program.

About Spray Formation

Some varieties during certain winter periods tend toward a clubby, tight spray. To some extent this is a question of varieties; avoid those that make poor sprays. In general, the normally late varieties make better sprays for January-February-March flowering than will the earlier kinds.

Also, many growers reduce the period of light to 1 hour during the last one-third of the lighting period to improve spray form. For example, on the crop to flower January 14, lights would be turned on only 1 hour nightly from September 23 to October 8.

Unchecked, Rapid Growth

These schedules are all based on a rapid, unchecked growth. You should realize 8-10 inches of new growth on a cutting within 30 days of benching. (We have gotten as much as 20 inches!) If you aren't getting it, here are things to look for:

1. Poorly rooted, hard cuttings; too long in the sand.
2. Tight soil; poorly drained and aerated. Add peat or manure.
3. Nutrient deficiency—lack of nitrates, potash or phosphate.
4. Too cold—they grow much faster at 60° than at 45°!
5. Too dry—soil must be kept uniformly moist.
6. Bugs.

DATES TO START AND STOP LIGHTS AND SHADE

Response Group	Start Light in Fall	Stop Light in Spring	Start Shade in Spring	Stop Shade in Fall
8, 9, 10, 11 Week	July 15	May 15	March 15	Sept. 15
12, 13, 14 Week	Aug. 5	May 10	Feb. 15	Oct. 5

HOURS OF LIGHT PER NIGHT (Latitude 35-45°)

- 1 hour per night during July and May.
- 2 hours per night during August and April.
- 3 hours per night during September, October, and March.
- 4 hours per night during November and February.
- 5 hours per night during December and January.

HOURS OF LIGHT PER NIGHT (Latitude 25-35°)

- 1 hour per night during June and July.
- 2 hours per night during April, May, and August.
- 3 hours per night during February, March, September, and October.
- 4 hours per night during November, December, and January.

LATITUDE TABLE

- 40-45° includes:** New England, New York, Pennsylvania, Northern Ohio, Northern Indiana, Northern Illinois, Iowa, Minnesota, Wisconsin, Michigan, Washington, and Oregon.
- 35-40° includes:** Southern New Jersey, Delaware, Maryland, Virginia, West Virginia, North Carolina, Kentucky, Tennessee, Southern Ohio, Southern Indiana, Southern Illinois, Missouri, Kansas, Colorado, Northern Arkansas, Northern Oklahoma, Southern Nevada, Southern Utah, and Central California.
- 30-35° includes:** Southern California, New Mexico, Arizona, Texas (North of Austin), Southern Oklahoma, Southern Arkansas, Louisiana, Mississippi, Alabama, Georgia, South Carolina, and Northern Florida.
- 25-30° includes:** Central and Southern Florida, and Southern Texas.

YEAR 'ROUND FLOWERING SCHEDULE

TO FLOWER APRIL 16

Latitude (See Page 29)	Plant Cuttings	Pinch*	Lighting Period	Start Shade	USE THESE VARIETIES	
					Pompons	Standards
40-45°	Nov. 13	Dec. 11	Nov. 13-Jan. 29	Feb. 15	List B , page 38	List J , page 39
35-40°	Nov. 20	Dec. 18	Nov. 20-Jan. 29	Feb. 15	List B , page 38	List J , page 39
30-35°	Nov. 27	Dec. 25	Nov. 27-Feb. 5	Mar. 15 if no buds	List A , page 38	List K , page 39
25-30°	Dec. 25	Jan. 15	Dec. 25-Feb. 5	Mar. 15 if no buds	List F , page 39	List K , page 39

TO FLOWER APRIL 23

40-45°	Nov. 20	Dec. 25	Nov. 20-Feb. 5	Feb. 15	List B , page 38	List J , page 39
35-40°	Nov. 27	Jan. 1	Nov. 27-Feb. 5	Feb. 15	List B , page 38	List J , page 39
30-35°	Dec. 11	Jan. 8	Dec. 11-Feb. 12	Mar. 15	List A , page 38	List K , page 39
25-30°	Jan. 1	Jan. 22	Jan. 1-Feb. 12	Mar. 15	List F , page 39	List K , page 39

TO FLOWER APRIL 30

40-45°	Nov. 27	Jan. 1	Nov. 27-Feb. 12	Feb. 15	List B , page 38	List J , page 39
35-40°	Dec. 4	Jan. 8	Dec. 4-Feb. 12	Feb. 15	List B , page 38	List J , page 39
30-35°	Dec. 18	Jan. 15	Dec. 18-Feb. 19	Mar. 15	List A , page 38	List K , page 39
25-30°	Jan. 8	Jan. 29	Jan. 8-Feb. 19	Mar. 15	List F , page 39	List K , page 39

TO FLOWER MAY 7

40-45°	Dec. 11	Jan. 15	Dec. 11-Feb. 19	Feb. 19	List B , page 38	List J , page 39
35-40°	Dec. 18	Jan. 22	Dec. 18-Feb. 26	Mar. 15	List A , page 38	List J , page 39
30-35°	Jan. 1	Jan. 29	Jan. 1-Feb. 26	Mar. 15	List A , page 38	List K , page 39
25-30°	Jan. 15	Feb. 5	Jan. 15-Feb. 26	Mar. 15	List F , page 39	List K , page 39

TO FLOWER MAY 14

40-45°	Dec. 18	Jan. 22	Dec. 18-Feb. 26	Feb. 26	List B , page 38	List J , page 39
35-40°	Dec. 25	Jan. 29	Dec. 25-Mar. 5	Mar. 15	List A , page 38	List J , page 39
30-35°	Jan. 8	Feb. 5	Jan. 8-Mar. 5	Mar. 15	List A , page 38	List K , page 39
25-30°	Jan. 22	Feb. 12	Jan. 22-Mar. 5	Mar. 15	List F , page 39	List K , page 39

TO FLOWER MAY 21

40-45°	Jan. 1	Feb. 5	Jan. 1-Mar. 12	Mar. 15	List A , page 38	List H , page 39
35-40°	Jan. 8	Feb. 12	Jan. 8-Mar. 12	Mar. 15	List A , page 38	List H , page 39
30-35°	Jan. 22	Feb. 19	Jan. 22-Mar. 12	Mar. 15	List A , page 38	List K , page 39
25-30°	Jan. 29	Feb. 19	Jan. 29-Mar. 12	Mar. 15	List F , page 39	List K , page 39

These tables specify lighting during May, June and July in some cases. During seasons of favorable summer day length, some of this lighting is not really necessary. However, since most off-season growers are equipped to light anyway, we advise following the tables. Doing so will prevent premature bud set during cloudy weather.

*For single stem culture: plant cuttings on pinch date given above. During lighting periods, start lights same day you plant.

TO FLOWER MAY 28

Latitude (See Page 29)	Plant Cuttings	Pinch*	Lighting Period	Start Shade	USE THESE VARIETIES Pompons	Standards
40-45°	Jan. 8	Feb. 12	Jan. 8-Mar. 19	Mar. 19	List A , page 38	List H , page 39
35-40°	Jan. 15	Feb. 19	Jan. 15-Mar. 19	Mar. 19	List A , page 38	List H , page 39
30-35°	Jan. 29	Feb. 26	Jan. 29-Mar. 19	Mar. 19	List A , page 38	List K , page 39
25-30°	Feb. 5	Feb. 26	Feb. 5-Mar. 19	Mar. 19	List F , page 39	List K , page 39

TO FLOWER JUNE 4

40-45°	Jan. 15	Feb. 19	Jan. 15-Mar. 26	Mar. 26	List A , page 38	List H , page 39
35-40°	Jan. 29	Mar. 5	Jan. 29-Mar. 26	Mar. 26	List A , page 38	List H , page 39
30-35°	Feb. 5	Mar. 5	Feb. 5-Mar. 26	Mar. 26	List A , page 38	List K , page 39
25-30°	Feb. 12	Mar. 5	Feb. 12-Mar. 26	Mar. 26	List F , page 39	List K , page 39

TO FLOWER JUNE 11

40-45°	Jan. 29	Mar. 5	Jan. 29-Apr. 2	Apr. 2	List A , page 38	List H , page 39
35-40°	Feb. 5	Mar. 12	Feb. 5-Apr. 2	Apr. 2	List A , page 38	List H , page 39
30-35°	Feb. 12	Mar. 12	Feb. 12-Apr. 2	Apr. 2	List A , page 38	List K , page 39
25-30°	Feb. 19	Mar. 12	Feb. 19-Apr. 2	Apr. 2	List F , page 39	List K , page 39

TO FLOWER JUNE 18

40-45°	Feb. 12	Mar. 19	Feb. 12-Apr. 9	Apr. 9	List A , page 38	List H , page 39
35-40°	Feb. 12	Mar. 19	Feb. 12-Apr. 9	Apr. 9	List A , page 38	List H , page 39
30-35°	Feb. 19	Mar. 19	Feb. 19-Apr. 9	Apr. 9	List A , page 38	List K , page 39
25-30°	Feb. 26	Mar. 19	Feb. 26-Apr. 9	Apr. 9	List F , page 39	List K , page 39

TO FLOWER JUNE 25

40-45°	Feb. 26	Mar. 26	Feb. 26-Apr. 16	Apr. 16	List A , page 38	List H , page 39
35-40°	Feb. 26	Mar. 26	Feb. 26-Apr. 16	Apr. 16	List A , page 38	List H , page 39
30-35°	Feb. 26	Mar. 26	Feb. 26-Apr. 16	Apr. 16	List A , page 38	List K , page 39
25-30°	Mar. 12	Mar. 26	Mar. 12-Apr. 16	Apr. 16	List F , page 39	List K , page 39

TO FLOWER JULY 2

40-45°	Mar. 5	Apr. 2	Mar. 5-Apr. 23	Apr. 23	List A , page 38	List H , page 39
35-40°	Mar. 5	Apr. 2	Mar. 5-Apr. 23	Apr. 23	List A , page 38	List H , page 39
30-35°	Mar. 5	Apr. 2	Mar. 5-Apr. 23	Apr. 23	List A , page 38	List K , page 39
25-30°	Mar. 19	Apr. 2	Mar. 19-Apr. 23	Apr. 23	List F , page 39	List K , page 39

TO FLOWER JULY 9

40-45°	Mar. 12	Apr. 9	Mar. 12-Apr. 30	Apr. 30	List A , page 38	List H , page 39
35-40°	Mar. 12	Apr. 9	Mar. 12-Apr. 30	Apr. 30	List A , page 38	List H , page 39
30-35°	Mar. 12	Apr. 9	Mar. 12-Apr. 30	Apr. 30	List A , page 38	List K , page 39
25-30°	Mar. 26	Apr. 9	Mar. 26-Apr. 30	Apr. 30	List F , page 39	List K , page 39

*For single stem culture: plant cuttings on pinch date given above. During lighting periods, start lights same day you plant.

TO FLOWER JULY 16

Latitude (See Page 29)	Plant Cuttings	Pinch*	Lighting Period	Start Shade	USE THESE VARIETIES	
					Pompons	Standards
40-45°	Mar. 19	Apr. 16	Mar. 19-May 1	May 7	List A , page 38	List H , page 39
35-40°	Mar. 19	Apr. 16	Mar. 19-May 7	May 7	List A , page 38	List H , page 39
30-35°	Mar. 19	Apr. 16	Mar. 19-May 7	May 7	List A , page 38	List K , page 39
25-30°	Apr. 2	Apr. 16	Apr. 2-May 7	May 7	List F , page 39	List K , page 39

TO FLOWER JULY 23

40-45°	Mar. 26	Apr. 23	Mar. 26-May 1	May 14	List A , page 38	List H , page 39
35-40°	Mar. 26	Apr. 23	Mar. 26-May 14	May 14	List A , page 38	List H , page 39
30-35°	Mar. 26	Apr. 23	Mar. 26-May 14	May 14	List A , page 38	List K , page 39
25-30°	Apr. 9	Apr. 23	Apr. 9-May 14	May 14	List F , page 39	List K , page 39

TO FLOWER JULY 30

40-45°	Apr. 2	Apr. 30	Apr. 2-May 1	May 21	List A , page 38	List H , page 39
35-40°	Apr. 2	Apr. 30	Apr. 2-May 15	May 21	List A , page 38	List H , page 39
30-35°	Apr. 2	Apr. 30	Apr. 2-May 21	May 21	List A , page 38	List K , page 39
25-30°	Apr. 16	Apr. 30	Apr. 16-May 21	May 21	List F , page 39	List K , page 39

TO FLOWER AUGUST 6

40-45°	Apr. 9	May 7	Apr. 9-May 1	May 28	List A , page 38	List H , page 39
35-40°	Apr. 9	May 7	Apr. 9-May 15	May 28	List A , page 38	List H , page 39
30-35°	Apr. 9	May 7	Apr. 9-May 28	May 28	List A , page 38	List K , page 39
25-30°	Apr. 23	May 7	Apr. 23-May 28	May 28	List F , page 39	List K , page 39

TO FLOWER AUGUST 13

40-45°	Apr. 16	May 14	Apr. 16-May-1	June 4	List A , page 38	List H , page 39
35-40°	Apr. 16	May 14	Apr. 16-May 15	June 4	List A , page 38	List H , page 39
30-35°	Apr. 16	May 14	Apr. 16-June 4	June 4	List A , page 38	List K , page 39
25-30°	Apr. 30	May 14	Apr. 30-June 4	June 4	List F , page 39	List K , page 39

TO FLOWER AUGUST 20

40-45°	Apr. 23	May 21	Apr. 23-May 1	June 11	List A , page 38	List H , page 39
35-40°	Apr. 23	May 21	Apr. 23-May 15	June 11	List A , page 38	List H , page 39
30-35°	Apr. 23	May 21	Apr. 23-June 11	June 11	List A , page 38	List K , page 39
25-30°	May 7	May 21	May 7-June 11	June 11	List F , page 39	List K , page 39

TO FLOWER AUGUST 27

40-45°	Apr. 30	May 28	Apr. 30-May 1	June 18	List A , page 38	List H , page 39
35-40°	Apr. 30	May 28	Apr. 30-May 15	June 18	List A , page 38	List H , page 39
30-35°	Apr. 30	May 28	Apr. 30-June 18	June 18	List A , page 38	List K , page 39
25-30°	May 14	May 28	May 14-June 18	June 18	List F , page 39	List K , page 39

*For single stem culture: plant cuttings on pinch date given above During lighting periods, start lights same day you plant.

TO FLOWER SEPTEMBER 3

Latitude (See Page 29)	Plant Cuttings	Pinch*	Lighting Period	Start Shade	USE THESE VARIETIES	
					Pompons	Standards
40-45°	May 7	June 4	No Lights	June 25	List A , page 38	List H , page 39
35-40°	May 7	June 4	May 7-May 15	June 25	List A , page 38	List H , page 39
30-35°	May 14	June 4	May 14-June 25	June 25	List A , page 38	List K , page 39
25-30°	May 21	June 4	May 21-June 25	June 25	List F , page 39	List K , page 39

TO FLOWER SEPTEMBER 10

40-45°	May 14	June 11	No Lights	July 2	List A , page 38	List H , page 39
35-40°	May 14	June 11	May 14-May 15	July 2	List A , page 38	List H , page 39
30-35°	May 21	June 11	May 21-July 2	July 2	List A , page 38	List K , page 39
25-30°	May 28	June 11	May 28-July 2	July 2	List F , page 39	List K , page 39

TO FLOWER SEPTEMBER 17

40-45°	May 28	June 18	No Lights	July 2	List C , page 38	List H , page 39
35-40°	May 28	June 18	No Lights	July 9	List A , page 38	List H , page 39
30-35°	May 28	June 18	May 28-July 9	July 9	List A , page 38	List K , page 39
25-30°	June 4	June 18	June 4-July 9	July 9	List F , page 39	List K , page 39

TO FLOWER SEPTEMBER 24

40-45°	May 28	June 18	No Lights	July 9	List C , page 38	List H , page 39
35-40°	June 4	June 25	July 15-July 16	July 16	List A , page 38	List H , page 39
30-35°	June 4	June 25	June 4-July 16	July 16	List A , page 38	List K , page 39
25-30°	June 11	June 25	June 11-July 16	July 16	List F , page 39	List K , page 39

TO FLOWER OCTOBER 1

40-45°	June 4	June 25	No Lights	July 16	List C , page 38	List H , page 39
35-40°	June 11	July 2	July 15-July 16	July 16	List C , page 38	List H , page 39
30-35°	June 11	July 2	June 11-July 23	July 23	List A , page 38	List K , page 39
25-30°	June 18	July 2	June 18-July 23	July 23	List F , page 39	List K , page 39

TO FLOWER OCTOBER 8

40-45°	June 11	July 2	No Lights	July 23	List C , page 38	List H , page 39
35-40°	June 18	July 9	July 15-July 23	July 23	List C , page 38	List H , page 39
30-35°	June 11	July 2	June 11-July 30	July 30	List A , page 38	List K , page 39
25-30°	June 25	July 9	June 25-July 30	July 30	List F , page 39	List K , page 39

TO FLOWER OCTOBER 15

40-45°	June 11	July 2	No Lights	July 30	List C , page 38	List J , page 39
35-40°	June 18	July 9	July 15-July 30	July 30	List C , page 38	List H , page 39
30-35°	June 18	July 9	June 18-Aug. 6	Aug. 6	List A , page 38	List K , page 39
25-30°	July 2	July 16	July 2-Aug. 6	Aug. 6	List F , page 39	List K , page 39

*For single stem culture: plant cuttings on pinch date given above. During lighting periods, start lights same day you plant.

TO FLOWER OCTOBER 22

Latitude (See Page 29)	Plant Cuttings	Pinch*	Lighting Period	Start Shade	USE THESE VARIETIES	
					Pompons	Standards
40-45°	June 18	July 9	Aug. 1-Aug. 6	Aug. 6	List C , page 38	List J , page 39
35-40°	June 25	July 16	July 15-Aug. 6	Aug. 6	List C , page 38	List J , page 39
30-35°	June 25	July 16	June 25-Aug. 13	Aug. 13	List A , page 38	List K , page 39
25-30°	July 9	July 23	July 9-Aug. 13	Aug. 13	List F , page 39	List K , page 39

TO FLOWER OCTOBER 29

40-45°	June 25	July 16	Aug. 1-Aug. 13	Aug. 13	List C , page 38	List J , page 39
35-40°	July 2	July 23	July 15-Aug. 13	Aug. 13	List C , page 38	List J , page 39
30-35°	July 2	July 23	July 2-Aug. 20	Aug. 20	List A , page 38	List K , page 39
25-30°	July 16	July 30	July 16-Aug. 20	Aug. 20	List F , page 39	List K , page 39

TO FLOWER NOVEMBER 5

40-45°	June 25	July 16	Aug. 1-Aug. 20	Aug. 20	List C , page 38	List J , page 39
35-40°	July 2	July 23	July 15-Aug. 20	Aug. 20	List C , page 38	List J , page 39
30-35°	July 2	July 23	July 2-Aug. 27	Aug. 27	List A , page 38	List K , page 39
25-30°	July 23	Aug. 6	July 23-Aug. 27	Aug. 27	List F , page 39	List K , page 39

TO FLOWER NOVEMBER 12

40-45°	July 2	July 23	Aug. 1-Aug. 27	Aug. 27	List C , page 38	List J , page 39
35-40°	July 9	July 30	July 15-Aug. 27	Aug. 27	List C , page 38	List J , page 39
30-35°	July 9	July 30	July 9-Sept. 3	Sept. 3	List A , page 38	List K , page 39
25-30°	July 30	Aug. 13	July 30-Sept. 3	Sept. 3	List F , page 39	List K , page 39

TO FLOWER NOVEMBER 19

40-45°	July 9	July 30	Aug. 6-Sept. 3	Sept. 3	List C , page 38	List J , page 39
35-40°	July 16	Aug. 6	July 16-Sept. 3	Sept. 3	List C , page 38	List J , page 39
30-35°	July 16	Aug. 6	July 16-Sept. 10	Sept. 10	List A , page 38	List K , page 39
25-30°	Aug. 6	Aug. 20	Aug. 6-Sept. 10	Sept. 10	List F , page 39	List K , page 39

TO FLOWER NOVEMBER 26

40-45°	July 9	July 30	Aug. 1-Sept. 10	Sept. 10	List C , page 38	List J , page 39
35-40°	July 16	Aug. 6	July 16-Sept. 10	Sept. 10	List C , page 38	List J , page 39
30-35°	July 23	Aug. 13	July 23-Sept. 17	No Shade	List A , page 38	List K , page 39
25-30°	Aug. 13	Aug. 27	Aug. 13-Sept. 17	No Shade	List F , page 39	List K , page 39

TO FLOWER DECEMBER 3

40-45°	July 16 July 16	Aug. 6 Aug. 6	Aug. 1-Aug. 27 Aug. 1-Sept. 17	Aug. 27 Sept. 17	List E , page 39 _____	_____
35-40°	July 23 July 23	Aug. 13 Aug. 13	July 23-Aug. 27 July 23-Sept. 17	Aug. 27 Sept. 17	List E , page 39 _____	List J , page 39
30-35°	July 23	Aug. 13	July 23-Sept. 24	No Shade	List A , page 38	List K , page 39
25-30°	Aug. 13	Aug. 27	Aug. 13-Sept. 24	No Shade	List F , page 39	List K , page 39

*For single stem culture: plant cuttings on pinch date given above. During lighting periods, start lights same day you plant.

TO FLOWER DECEMBER 10

Latitude (See Page 29)	Plant Cuttings	Pinch*	Lighting Period	Start Shade	USE THESE VARIETIES Pompons	Standards
40-45°	July 23 July 23	Aug. 13 Aug. 13	Aug. 1-Sept. 3 Aug. 1-Sept. 24	Sept. 3 Sept. 24	List E , page 39 _____	_____ List J , page 39
35-40°	July 30 July 30	Aug. 20 Aug. 20	July 30-Sept. 3 July 30-Sept. 24	Sept. 3 Sept. 24	List E , page 39 _____	_____ List J , page 39
30-35°	July 30	Aug. 20	July 30-Oct. 1	No Shade	List A , page 38	List K , page 39
25-30°	Aug. 20	Sept. 3	Aug. 20-Oct. 1	No Shade	List F , page 39	List K , page 39

TO FLOWER DECEMBER 17

40-45°	July 23 July 23	Aug. 13 Aug. 13	Aug. 1-Sept. 10 Aug. 1-Oct. 1	Sept. 10 Oct. 1	List E , page 39 _____	_____ List J , page 39
35-40°	July 30 July 30	Aug. 20 Aug. 20	July 30-Sept. 10 July 30-Oct. 1	Sept. 10 Oct. 1	List E , page 39 _____	_____ List J , page 39
30-35°	Aug. 6 Aug. 6	Aug. 27 Aug. 27	Aug. 6-Sept. 24 Aug. 6-Oct. 1	Sept. 24 Oct. 1	List G , page 39 _____	_____ List K , page 39
25-30°	Aug. 27	Sept. 10	Aug. 27-Oct. 8	No Shade	List F , page 39	List K , page 39

TO FLOWER DECEMBER 24

40-45°	July 30 July 30	Aug. 20 Aug. 20	Aug. 1-Sept. 17 Aug. 1-Oct. 8	Sept. 17 No Shade	List E , page 39 _____	_____ List J , page 39
35-40°	Aug. 6 Aug. 6	Aug. 27 Aug. 27	Aug. 6-Sept. 17 Aug. 6-Oct. 8	Sept. 17 No Shade	List E , page 39 _____	_____ List J , page 39
30-35°	Aug. 13 Aug. 13	Sept. 3 Sept. 3	Aug. 13-Oct. 1 Aug. 13-Oct. 8	Oct. 1 No Shade	List G , page 39 _____	_____ List K , page 39
25-30°	Sept. 3	Sept. 17	Sept. 3-Oct. 15	No Shade	List F , page 39	List K , page 39

TO FLOWER DECEMBER 31

40-45°	Aug. 6 Aug. 6	Aug. 27 Aug. 27	Aug. 6-Sept. 24 Aug. 6-Oct. 15	Sept. 24 No Shade	List E , page 39 _____	_____ List J , page 39
35-40°	Aug. 13 Aug. 13	Sept. 3 Sept. 3	Aug. 13-Sept. 24 Aug. 13-Oct. 15	Sept. 24 No Shade	List E , page 39 _____	_____ List J , page 39
30-35°	Aug. 20 Aug. 20	Sept. 10 Sept. 10	Aug. 20-Oct. 8 Aug. 20-Oct. 15	No Shade No Shade	List G , page 39 _____	_____ List K , page 39
25-30°	Sept. 10	Sept. 24	Sept. 10-Oct. 22	No Shade	List F , page 39	List K , page 39

TO FLOWER JANUARY 7

40-45°	Aug. 6 Aug. 6	Aug. 27 Aug. 27	Aug. 6-Oct. 1 Aug. 6-Oct. 22	Oct. 1 No Shade	List E , page 39 _____	_____ List J , page 39
35-40°	Aug. 13 Aug. 13	Sept. 3 Sept. 3	Aug. 13-Oct. 1 Aug. 13-Oct. 22	Oct. 1 No Shade	List E , page 39 _____	_____ List J , page 39
30-35°	Aug. 20 Aug. 20	Sept. 10 Sept. 10	Aug. 20-Oct. 15 Aug. 20-Oct. 22	No Shade No Shade	List G , page 39 _____	_____ List K , page 39
25-30°	Sept. 17 Sept. 17	Oct. 1 Oct. 1	Sept. 17-Oct. 15 Sept. 17-Oct. 22	No Shade No Shade	List G , page 39 _____	_____ List K , page 39

TO FLOWER JANUARY 14

40-45°	Aug. 13 Aug. 13	Sept. 3 Sept. 3	Aug. 13-Oct. 8 Aug. 13-Oct. 29	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
35-40°	Aug. 13 Aug. 13	Sept. 10 Sept. 10	Aug. 13-Oct. 8 Aug. 13-Oct. 29	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
30-35°	Aug. 27 Aug. 27	Sept. 17 Sept. 17	Aug. 27-Oct. 22 Aug. 27-Oct. 29	No Shade No Shade	List G , page 39 _____	_____ List K , page 39
25-30°	Sept. 24 Sept. 24	Oct. 8 Oct. 8	Sept. 24-Oct. 22 Sept. 24-Oct. 29	No Shade No Shade	List G , page 39 _____	_____ List K , page 39

*For single stem culture: plant cuttings on pinch date given above. During lighting periods, start lights same day you plant.

TO FLOWER JANUARY 21

Latitude (See Page 29)	Plant Cuttings	Pinch*	Lighting Period	Start Shade	USE THESE VARIETIES	
					Pompons	Standards
40-45°	Aug. 13 Aug. 13	Sept. 10 Sept. 10	Aug. 13-Oct. 15 Aug. 13-Nov. 5	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
35-40°	Aug. 20 Aug. 20	Sept. 17 Sept. 17	Aug. 20-Oct. 15 Aug. 20-Nov. 5	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
30-35°	Sept. 3 Sept. 3	Sept. 24 Sept. 24	Sept. 3-Oct. 29 Sept. 3-Nov. 5	No Shade No Shade	List G , page 39 _____	_____ List K , page 39
25-30°	Oct. 1 Oct. 1	Oct. 15 Oct. 15	Oct. 1-Oct. 29 Oct. 1-Nov. 5	No Shade No Shade	List G , page 39 _____	_____ List K , page 39

TO FLOWER JANUARY 28

40-45°	Aug. 20 Aug. 20	Sept. 17 Sept. 17	Aug. 20-Oct. 22 Aug. 20-Nov. 12	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
35-40°	Aug. 27 Aug. 27	Sept. 24 Sept. 24	Aug. 27-Oct. 22 Aug. 27-Nov. 12	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
30-35°	Sept. 10 Sept. 10	Oct. 1 Oct. 1	Sept. 10-Nov. 5 Sept. 10-Nov. 12	No Shade No Shade	List G , page 39 _____	_____ List K , page 39
25-30°	Oct. 8 Oct. 8	Oct. 22 Oct. 22	Oct. 8-Nov. 5 Oct. 8-Nov. 12	No Shade No Shade	List G , page 39 _____	_____ List K , page 39

TO FLOWER FEBRUARY 4

40-45°	Sept. 3 Sept. 3	Oct. 1 Oct. 1	Sept. 3-Oct. 29 Sept. 3-Nov. 19	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
35-40°	Sept. 3 Sept. 3	Oct. 1 Oct. 1	Sept. 3-Oct. 29 Sept. 3-Nov. 19	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
30-35°	Sept. 17 Sept. 17	Oct. 8 Oct. 8	Sept. 17-Nov. 12 Sept. 17-Nov. 19	No Shade No Shade	List G , page 39 _____	_____ List K , page 39
25-30°	Oct. 15 Oct. 15	Oct. 29 Oct. 29	Oct. 15-Nov. 12 Oct. 15-Nov. 19	No Shade No Shade	List G , page 39 _____	_____ List K , page 39

TO FLOWER FEBRUARY 11

40-45°	Sept. 3 Sept. 3	Oct. 1 Oct. 1	Sept. 3-Nov. 5 Sept. 3-Nov. 26	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
35-40°	Sept. 10 Sept. 10	Oct. 8 Oct. 8	Sept. 10-Nov. 5 Sept. 10-Nov. 26	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
30-35°	Sept. 24 Sept. 24	Oct. 15 Oct. 15	Sept. 24-Nov. 19 Sept. 24-Nov. 26	No Shade No Shade	List G , page 39 _____	_____ List K , page 39
25-30°	Oct. 22 Oct. 22	Nov. 5 Nov. 5	Oct. 22-Nov. 19 Oct. 22-Nov. 26	No Shade No Shade	List G , page 39 _____	_____ List K , page 39

TO FLOWER FEBRUARY 18

40-45°	Sept. 10 Sept. 10	Oct. 8 Oct. 8	Sept. 10-Nov. 12 Sept. 10-Dec. 3	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
35-40°	Sept. 17 Sept. 17	Oct. 15 Oct. 15	Sept. 17-Nov. 12 Sept. 17-Dec. 3	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
30-35°	Oct. 1 Oct. 1	Oct. 22 Oct. 22	Oct. 1-Nov. 26 Oct. 1-Dec. 3	No Shade No Shade	List G , page 39 _____	_____ List K , page 39
25-30°	Oct. 29	Nov. 12	Oct. 29-Dec. 10	No Shade	List F , page 39	List K , page 39

*For single stem culture: plant cuttings on pinch date given above. During lighting periods, start lights same day you plant.

TO FLOWER FEBRUARY 25

Latitude (See Page 29)	Plant Cuttings	Pinch*	Lighting Period	Start Shade	USE THESE VARIETIES	
					Pompons	Standards
40-45°	Sept. 17 Sept. 17	Oct. 15 Oct. 15	Sept. 17-Nov. 19 Sept. 17-Dec. 10	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
35-40°	Sept. 24 Sept. 24	Oct. 22 Oct. 22	Sept. 24-Nov. 19 Sept. 24-Dec. 10	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
30-35°	Oct. 8 Oct. 8	Oct. 29 Oct. 29	Oct. 8-Dec. 3 Oct. 8-Dec. 10	No Shade No Shade	List G , page 39 _____	_____ List K , page 39
25-30°	Nov. 5	Nov. 19	Nov. 5-Dec. 17	No Shade	List F , page 39	List K , page 39

TO FLOWER MARCH 4

40-45°	Sept. 24 Sept. 24	Oct. 22 Oct. 22	Sept. 24-Nov. 26 Sept. 24-Dec. 17	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
35-40°	Oct. 1 Oct. 1	Oct. 29 Oct. 29	Oct. 1-Dec. 3 Oct. 1-Dec. 17	No Shade No Shade	List D , page 39 _____	_____ List J , page 39
30-35°	Oct. 8	Nov. 5	Oct. 8-Dec. 24	No Shade	List A , page 38	List K , page 39
25-30°	Nov. 19	Dec. 3	Nov. 19-Dec. 24	No Shade	List F , page 39	List K , page 39

TO FLOWER MARCH 11

40-45°	Oct. 1 Oct. 1	Oct. 29 Oct. 29	Oct. 1-Dec. 3 Oct. 1-Dec. 24	No Shade No Shade	List E , page 39 _____	_____ List J , page 39
35-40°	Oct. 8 Oct. 8	Nov. 5 Nov. 5	Oct. 8-Dec. 10 Oct. 8-Dec. 24	No Shade No Shade	List D , page 39 _____	_____ List J , page 39
30-35°	Oct. 15	Nov. 12	Oct. 15-Dec. 31	No Shade	List A , page 38	List K , page 39
25-30°	Nov. 26	Dec. 10	Nov. 26-Dec. 31	No Shade	List F , page 39	List K , page 39

TO FLOWER MARCH 18

40-45°	Oct. 8 Oct. 8	Nov. 5 Nov. 5	Oct. 8-Dec. 17 Oct. 8-Dec. 31	No Shade No Shade	List D , page 39 _____	_____ List J , page 39
35-40°	Oct. 15 Oct. 15	Nov. 12 Nov. 12	Oct. 15-Dec. 17 Oct. 15-Dec. 31	No Shade No Shade	List D , page 39 _____	_____ List J , page 39
30-35°	Oct. 22	Nov. 19	Oct. 22-Jan. 7	No Shade	List A , page 38	List K , page 39
25-30°	Nov. 26	Dec. 17	Nov. 26-Jan. 7	No Shade	List F , page 39	List K , page 39

TO FLOWER MARCH 25

40-45°	Oct. 15	Nov. 12	Oct. 15-Dec. 24	Feb. 15 if no buds	List D , page 39	_____
	Oct. 15	Nov. 12	Oct. 15-Jan. 7	Feb. 15 if no buds	_____	List J , page 39
35-40°	Oct. 22	Nov. 19	Oct. 22-Dec. 24	Feb. 15 if no buds	List D , page 39	_____
	Oct. 22	Nov. 19	Oct. 22-Jan. 7	Feb. 15 if no buds	_____	List J , page 39
30-35°	Oct. 29	Nov. 26	Oct. 29-Jan. 14	No Shade	List A , page 38	List K , page 39
25-30°	Dec. 3	Dec. 24	Dec. 3-Jan. 14	No Shade	List F , page 39	List K , page 39

TO FLOWER APRIL 1

40-45°	Oct. 22	Nov. 19	Oct. 22-Dec. 31	Feb. 15 if no buds	List D , page 39	_____
	Oct. 22	Nov. 19	Oct. 22-Jan. 14	Feb. 15 if no buds	_____	List J , page 39
35-40°	Oct. 29	Nov. 26	Oct. 29-Jan. 14	Feb. 15 if no buds	List B , page 38	List J , page 39
30-35°	Nov. 5	Dec. 3	Nov. 5-Jan. 21	No Shade	List A , page 38	List K , page 39
25-30°	Dec. 10	Dec. 31	Dec. 10-Jan. 21	No Shade	List F , page 39	List K , page 39

*For single stem culture: plant cuttings on pinch date given above. During lighting periods, start lights same day you plant.

TO FLOWER APRIL 8

Latitude (See Page 29)	Plant Cuttings	Pinch*	Lighting Period	Start Shade	USE THESE VARIETIES	
					Pompons	Standards
40-45°	Nov. 5	Dec. 3	Nov. 5-Jan. 7	Feb. 15 if no buds	List D , page 39	—
	Nov. 5	Dec. 3	Nov. 5-Jan. 21	Feb. 15 if no buds	—	List J , page 39
35-40°	Nov. 12	Dec. 10	Nov. 12-Jan. 21	Feb. 15 if no buds	List B , below	List J , page 39
30-35°	Nov. 19	Dec. 17	Nov. 19-Jan. 28	Mar. 15 if no buds	List A , below	List K , page 39
25-30°	Dec. 17	Jan. 7	Dec. 17-Jan. 28	No Shade	List F , page 39	List K , page 39

*For single stem culture: plant cuttings on pinch date given above. During lighting periods, start lights same day you plant.

RECOMMENDED VARIETIES

(For Year 'Round Flowering)

The following variety recommendations are keyed by letter groups to the flowering schedules starting on page 30. For example, to flower Mums on April 16, the schedule on page 30 refers to variety list "B" and "J." List "B" below includes our recommendations for Poms for this period; list "J" our recommendations for Standards.

These variety recommendations are based on our year 'round flowering trial program conducted at West Chicago. During the past year over 240 varieties (new and old) were flowered at different periods. The following selections are those that rated "tops" in our book. Experiences of growers in other sections have also guided us in making up these lists.

Variety List	White	Yellow	Pink	Bronze
A	Shasta*	Mary L. Hall*	Linda Lou*	Rubicon*
	Illini Snowdrift*	Gold Coast*	Reward*	Chevron*
	Wh. Popcorn*	Golden Herald*	Jessie	Buckskin
	Wh. Mensa*	Yel. Shasta*	Pandora	Buccaneer
	Keepsake*	Gold. Mensa*	Ballerina	Beauregard
	Songster*	Starbright*	Memorial	
	Pristine	Crescendo	C. Yosick	
	Popcorn	Sch. Yel. Daisy	Dk. Linda Lou	
	Halo	Brigadoon		
	Pinocchio	Sunup		
	Madonna			
	Norona			
B	Shasta*	Yel. Shasta*	Masterpiece*	Rubicon
	Illini Snowdrift*	Golden Mensa*	Grand Slam*	Chevron
	White Mensa*	Forty-Niner	Linda Lou*	
	Priscilla	Brigadoon	Minuet	
	Matchless	Mary L. Hall		
	Madonna	Gold Coast		
	Paramount			
	Sculpture			
C	Eskimo			
	Priscilla*	Golden Chord*	Grand Slam*	Rusticon*
	Shasta*	Klondike*	Linda Lou*	Rubicon*
	Illini Snowdrift*	Pippin*	Minuet	Beauregard*
	Dynamo*	Lollipop*	Soprano	Chevron
	Paramount*	Yel. Shasta	Pinky	Festival
	Encore	Bojangles	Majorette	Paragon
	Seagull			Mrs. Dewey
	Little America			Buckskin
	Crystal Beauty			
	Moonglow			

Variety List	White	Yellow	Pink	Bronze
D	Belray*	Corsair*	Debutante*	Galaxy*
	Yukon*	Cinderella*	Enchantress	Holiday
	Acclaim	Omega	Orchid Valencia	Christmas Star
	Fortune	Jackpot	Dk. Valencia	Mahogany Viking
	Cameo	Yel. Valencia		
	Satellite	Highlander		
	Snow Queen			
	Monarch			
	Wh. Valencia			
E	Silversmith*	Corsair*	Debutante*	Br. Riviera*
	Yukon*	Vibrant*	Riviera*	Merrymaker*
	Snowcrest*	Cinderella*	Medallion	Sarong
	Heirloom	Golden Anniversary	Minstrel	Christmas Greeting
	Snowcap	Omega	Defiance	Christmas Star
	Acclaim	Sequin		Claret
	Cameo	Yel. Riviera		Poinsettia
		Yuleflame		(Novelty)
		Siren		
		Shamrock		
F	Encore*	Mary L. Hall*	Linda Lou*	Rubicon*
	Shasta*	Gold Coast*	Reward*	Beauregard*
	Wh. Popcorn*	Yel. Shasta*	Ballerina*	Paragon
	Keepsake*	Golden Herald	Pink Dot	Buckskin
	Pristine*	Sch. Yel. Daisy	Pandora	Buccaneer
	Seagull	Sunray	Memorial	
	Songster	Constellation	Taffeta	
	Moonglow	Brigadoon	Masterpiece	
	Matchless	Barcarole		
G	Belray*	Omega*	Linda Lou*	Galaxy*
	Shasta*	Golden Chord*	Minuet	Thelma*
	Wh. Valencia*	Yel. Valencia*	Dk. Valencia	Apr. Valencia*
	Paramount*	Forty-Niner*	Sal. Valencia	Rusticon*
	Priscilla*	Lollipop*	Grand Slam	Rubicon*
	Encore	Goldsmith	Memorial	Beauregard*
	Fortune	Highlander	Pandora	Paragon
	Highbrow	Yel. Nevada	Masterpiece	Br. Goldsmith
	Sculpture	Princeton	Taffeta	
		Yel. Shasta		
		Brigadoon		
H	Betsy Ross*	Good News*	Dk. Orch. Queen	Mrs. Roy
	Queen's Lace*	Yel. Lace*		
	Mefo	Yel. Mefo		
J	Ind. White*	Ind. Yellow*	Ind. Pink	Mrs. Roy*
	Mefo*	Yel. Mefo*		Detroit News*
	Queen's Lace*	Yel. Lace*		Ind. Bronze
	Jean Elizabeth			
K	Ind. White*	Ind. Yellow*	Ind. Pink	Mrs. Roy*
	Mefo*	Yel. Mefo*	Dk. Orch. Queen	Detroit News*
	Queen's Lace*	Yel. Lace*		Ind. Bronze
	Jean Elizabeth	Good News		
	Betsy Ross			

POT MUMS 'ROUND THE YEAR

As with cut flower Mums the "season" for pot Mums is gradually spreading. Early shading for flowering thru August, September and October is common. This past season a great increase was noted in pot Mums flowered during spring and early summer. They make a nice plant at this time and are not hard to grow. The pot Mums produced this past spring in our own trial program were eagerly bought up before they were really open—"something different" is the usual comment. Pot Mums during the real winter months (January-March) are not so easy to grow, but with more experience, plus better varieties now on the way, they may become a serious *winter* pot plant, too.

The tables (page 41) are self-explanatory as to dates for planting, pinching, shading, etc. We should point out that, owing to the rather limited experience and records available, these tables may not prove entirely accurate under your conditions. Our tests this past spring pointed out how much flowering can be delayed by cooler temperatures. Bob Jung of Indianapolis reports that long spells of cloudy weather in midwinter will shorten days so much as to advance flowering dates substantially. Also, it will result in very short plants. Southern growers will find further corrections necessary—as with cut Mum schedules.

Especially on winter and even spring flowering schedules where growers have not had previous experience, we recommend that your first season's plantings not be too large.

If you plan to give Mums a try, we urge you to keep complete records of what you do, flowering dates and height at flowering time. Without this information, you will not be able to make the adjustments in dates for *next* year's program that will enable you to improve the quality of plants you grow.

About Shading

Apply black cloth to all plants on "start shade" date (see table) daily from 5 P.M. to 7:30 A.M. Black cloth shading is not needed between October 5 and February 15 because days are naturally short enough to set buds.

Lights

Light all plants between planting date and "start shade" date as follows:

During	Hours per night	During	Hours per night
August	2	January	5
September	2½	February	4
October	3	March	3
November	4	April	2
December	5		

Artificial light is not necessary between May 1 and August 1 because days are normally long enough to prevent budding.

One Pinch, Two Pinches, or Three?

It seems to be a question of what price plant your trade calls for. A three-pinch plant is heavier and finer—but it takes three weeks longer to grow than a two-pinch plant. Three pinches mean more disbudding, watering, spraying, and the cost of pinching, too. The same differences apply between two pinches and one pinch. In general it is possible to make up for the difference between one and two-pinch plants by using more cuttings—many growers do. A two-pinch 6 inch plant in the spring may bring \$1.75 (wholesale) where a single pinch (same number of cuttings) flowered at the same time would go for \$1.50.

In general it seems that most plants produced in the January-March period are single-pinch plants—perhaps partly be-

cause space is at more of a premium then. Spring plants (flowered April-June) are predominantly single-pinch, but two-pinch plants are grown during this period. Plants flowered in summer are usually two-pinch, with some pinched three times. Toward fall more and more three-pinch plants are grown.

Two-pinch plants tend to be not quite so tall as three-pinch plants.

There are schedules where the grower pots the cutting, pinches, and starts to shade all on the same date—"pot, pinch, and shade." In general, recent experience seems to favor a period of at least a week or two between planting cuttings and the shade-pinch date.

About Temperatures

At least a 60° minimum temperature must be provided between "start shade" date and formation of buds. As with cut Mums, this can be provided in a 50-55° house by setting plants on a raised bench, covering them with sateen after dark, and turning on pipe below the bench.

Before and after this period, 60° is recommended. Growing at much less than 60° during this "before and after" period will tend to delay flowering; the schedule must be advanced a week or two accordingly.

Bob Jung has grown excellent quality Bonaffon DeLuxe and Queen of Pinks for February-March flowering at 65° to 70° nights right thru. One lot flowered at a straight 70° minimum was especially fine and hard—no staking, of course. Bob recommends a straight 65° minimum for late winter-spring flowering of pot Mums. Higher temperatures give fuller, better flower sprays; and do not soften plants if proper varieties are used. Blazing Gold won't stand these high temperatures in winter.

Incidentally, it was our experience that, when growing for a certain holiday, it worked out better to aim our schedule to be in flower a week, or even more, ahead of the actual

A nicely done specimen of Bonaffon Deluxe. It's a two pinch plant, three cuttings in a 6 inch pot. Few varieties will break freely enough after pinching to produce such a head of blooms. Bonaffon is one of the best. See pages 44 and 45 for schedules.



holiday date. At best, plants to be sold for Mother's Day must be out where the customers can see them thru the week before.

How Many Cuttings Per Pot?

Note, for example, under single pinch plants for April-May-June blooming, that 4 cuttings are recommended for a 6 inch pot. Actually, 3 cuttings will make a presentable plant in most cases—and 5 will make a fuller looking plant than 4. Try it out both ways for yourself. Varieties that break easily and quickly require fewer cuttings per pot. It really depends on what your trade calls for. Also, a very nice plant can be produced with fewer cuttings in smaller pots—5's, or even 4's.

One of the best pot Mum growers we have seen grows everything right thru the year at 5 cuttings per 6-inch pot—regardless.

If Plants Flower Too Tall

Most growers aim at a 15 to 18-inch plant.

Stem length on the finished plant can be shortened by delaying the final pinch a week—or even two weeks longer than the schedule calls for. Let's take Queen's Lace on the two-pinch schedule for October 1 flowering: The schedule calls for final pinch 9 weeks before flowering date. If too tall, next season make final pinch 8 weeks before desired flowering date. All other dates remain the same.

The date you start shading controls the date the plants flower. If a lot of plants flower a week late this year, simply move the entire schedule up one week earlier next year.

Notes on Pot Mum Culture

Probably you've grown them before; if not, here are some suggestions.

We find either peat or manure added to the soil will really make 'em grow. It also cuts down watering. Superphosphate should be added to soil before potting. As plants get into active growth, we give them a weekly feeding with a not strong, balanced liquid fertilizer. Weekly spraying with wettable Parathion (see page 25) will control insects.

Like any other Mums, pot Mums appreciate a "wetting down" of foliage on hot afternoons. They like humidity. And incidentally, they *don't* like to get dry at the roots. Pot Mums can be summered over outdoors in frames or in cloth houses; but they require such careful watching that it's almost better to have them under glass.

About disbudding. As plants set bud, each stem should be disbudded to leave only the center bud. Exceptions: a very few Poms grown as a pot plant, such as Gypsy, Sunray and Linda Lou.

Avoid crowding the plants; it makes them tall, spindly, and poor.

Leave 3 sets of leaves as you pinch each time, if possible. All pinches should be into soft wood. Often it is possible to use the tips you remove for cuttings for later flowerings. But don't get off schedule to economize on a few cuttings—it doesn't pay!

HARDIES AT POT PLANTS

For the past several springs, increasing numbers of growers have finished a batch of hardy or garden Mums in pots for Mother's Day. They are quickly (90 days) and easily grown, make showy and unusual pot plants. They have added sales appeal in that, after flowering, they may be planted outdoors for another crop of blooms in the fall.

Here is a simple schedule worked out by William Skou at Ohio State: (For May 1 flowering).

February 8: Plant 5 rooted cuttings in a 5 or 6 inch pot, pinch same day and start lighting 5 hours per night. Same light intensity as for cut Mums. Minimum temperature throughout the crop: 60 degrees.

March 8: Discontinue lights. Pinch plants again, start regular black cloth shading from 5 P.M. to 8 A.M. daily till plants are in flower.

Varieties: (Date after each variety is flowering date if above schedule is followed.)

White: Avalanche, April 28; Calcite, May 7; Christopher Columbus, May 7; Classic, May 1; Pepita, May 1; Renown, April 28; Silverplate, April 29; White Wonder, May 7.

Yellow: Bamboo, May 3; Carnival, May 7; Early Gold, April 28; Early Yellow, May 3; Gold Rush, May 2; Lemonade, April 28; September Sunshine, May 3; Witchery, May 3; Yellow Christopher Columbus, May 1; Yellow Spoon, May 1; Yellow Supreme, May 10.

Pink: Joybringer, May 2; Major Cushion, May 3; September Cheer, May 3; Serenade, April 28.

Apricot: Calico, May 1; Tiffany Rose, April 28; W. P. Snyder, April 28.

Bronze: Carmelita, May 1; Early Bronze, April 28; James Stewart, May 1; Mona, May 1.

Orchid: Jewel, April 28; Spellbound, April 28.

POT MUMS ONE-PINCH SCHEDULE

Varieties	Pot 4 Cuttings per 6 inch pot	Pinch	Lighting Period	Start Shade	To Flower
Blazing Gold	Oct. 31	Nov. 11	Oct. 31-Nov. 11	No	JANUARY 6
Granite State	Oct. 23	Nov. 4	Oct. 23-Nov. 4	No	
Queen's Lace*	Oct. 22	Oct. 28	Oct. 22-Oct. 28	No	
Yellow Lace*					
Ind. White*					
Dark Ind. Yellow*					
Ind. Pink					
Little America					
Richard Mandel	Oct. 17	Oct. 28	Oct. 17-Oct. 28	No	
Queen of Pinks*					
Bonnaffon DeLuxe*	Oct. 10	Oct. 21	Oct. 10-Oct. 21	No	JANUARY 6
¹ No-Pinch Indianapolis*	Oct. 24	No Pinch	Oct. 24-Oct. 28	No	

*Preferred varieties.

¹Really fine! Plant 5-7 cuttings per 6 inch pot; give 4 long days and have salable plants in 9-10 weeks.

Varieties	Pot 4 Cuttings per 6 inch pot	Pinch	Lighting Period	Start Shade	To Flower
Blazing Gold	Nov. 14	Nov. 25	Nov. 14-Nov. 25	No	JANUARY 20
Granite State	Nov. 6	Nov. 18	Nov. 6-Nov. 18	No	
Queen's Lace*	Nov. 5	Nov. 11	Nov. 5-Nov. 11	No	
Yellow Lace*					
Ind. White*					
Dk. Ind. Yellow*					
Ind. Pink					
Little America					
Richard Mandel	Oct. 31	Nov. 11	Oct. 31-Nov. 11	No	JANUARY 20
Queen of Pinks*					
Bonnaffon DeLuxe*	Oct. 24	Nov. 4	Oct. 24-Nov. 4	No	
¹ No-Pinch Indianapolis*	Nov. 7	No Pinch	Nov. 7-Nov. 11	No	
Granite State	Nov. 20	Dec. 2	Nov. 20-Dec. 2	No	FEBRUARY 3
Queen's Lace*	Nov. 19	Nov. 25	Nov. 19-Nov. 25	No	
Yellow Lace*					
Ind. White*					
Dk. Ind. Yellow*					
Ind. Pink					
Little America					
Queen of Pinks*	Nov. 14	Nov. 25	Nov. 14-Nov. 25	No	
Bonnaffon Deluxe*	Nov. 7	Nov. 18	Nov. 7-Nov. 18	No	FEBRUARY 3
¹ No-Pinch Indianapolis*	Nov. 21	No Pinch	Nov. 21-Nov. 25	No	
Granite State	Dec. 4	Dec. 16	Dec. 4-Dec. 16	No	FEBRUARY 17
Queen's Lace*	Dec. 3	Dec. 9	Dec. 3-Dec. 9	No	
Yellow Lace*					
Ind. White*					
Dk. Ind. Yellow*					
Ind. Pink					
Little America					
Queen of Pinks*	Nov. 28	Dec. 9	Nov. 28-Dec. 9	No	
Bonnaffon Deluxe*	Nov. 21	Dec. 2	Nov. 21-Dec. 2	No	FEBRUARY 17
¹ No-Pinch Indianapolis*	Dec. 5	No Pinch	Dec. 5-Dec. 9	No	
Granite State	Dec. 25	Jan. 6	Dec. 25-Jan. 6	No	MARCH 10
Queen's Lace*	Dec. 24	Dec. 30	Dec. 24-Dec. 30	No	
Yellow Lace*					
Ind. White*					
Dk. Ind. Yellow*					
Ind. Pink					
Little America					
Queen of Pinks*	Dec. 19	Dec. 30	Dec. 19-Dec. 30	No	
Bonnaffon Deluxe*	Dec. 12	Dec. 23	Dec. 12-Dec. 23	No	MARCH 10
¹ No-Pinch Indianapolis*	Dec. 26	No Pinch	Dec. 26-Dec. 30	No	
Granite State	Jan. 8	Jan. 20	Jan. 8-Jan. 20	No	MARCH 24
Queen's Lace*	Jan. 7	Jan. 13	Jan. 7-Jan. 13	No	
Yellow Lace*					
Ind. White*					
Dk. Ind. Yellow*					
Ind. Pink					
Little America					
Queen of Pinks*	Jan. 2	Jan. 13	Jan. 2-Jan. 13	No	
Bonnaffon Deluxe*	Dec. 26	Jan. 6	Dec. 26-Jan. 6	No	MARCH 24
¹ No-Pinch Indianapolis*	Jan. 9	No Pinch	Jan. 9-Jan. 13	No	

*Preferred varieties.

¹Really fine! Plant 5-7 cuttings per 6 inch pot; give 4 long days and have salable plants in 9-10 weeks.

Varieties	Pot 4 Cuttings per 6 inch pot	Pinch	Lighting Period	Start Shade	To Flower
Blazing Gold	Jan. 29	Feb. 5	Jan. 29-Feb. 5	March 15 if no buds	APRIL 2
Sunray (Do not disbud)	Jan. 22	Jan. 29	Jan. 22-Jan. 29	March 15 if no buds	
Granite State					
Queen's Lace*	Jan. 15	Jan. 22	Jan. 15-Jan. 22	March 15 if no buds	
Yellow Lace*					
Ind. White*					
Dk. Ind. Yellow*					
Ind. Pink					
Little America					APRIL 16
Linda Lou (Do not disbud)					
Queen of Pinks*					
Bonnaffon Deluxe*	Jan. 8	Jan. 15	Jan. 8-Jan. 15	Feb. 15	
¹ No-Pinch Indianapolis*	Jan. 17	No Pinch	Jan. 17-Jan. 21	March 15 if no buds	
Blazing Gold	Feb. 12	Feb. 19	Feb. 12-Feb. 19	Mar. 15	APRIL 30
Sunray (Do not disbud)	Feb. 5	Feb. 12	Feb. 5-Feb. 12	Mar. 15	
Granite State					
Queen's Lace*	Jan. 29	Feb. 5	Jan. 29-Feb. 5	Mar. 15	
Yellow Lace*					
Ind. White*					
Dk. Ind. Yellow*					
Ind. Pink					
Little America					MAY 14
Linda Lou (Do not disbud)					
Queen of Pinks*					
Bonnaffon Deluxe*	Jan. 22	Jan. 29	Jan. 22-Jan. 29	Feb. 15	
¹ No-Pinch Indianapolis*	Jan. 31	No Pinch	Jan. 31-Feb. 4	Mar. 15	
Blazing Gold	Feb. 26	Mar. 5	Feb. 26-Mar. 5	Mar. 15	MAY 14
Sunray (Do not disbud)	Feb. 19	Feb. 26	Feb. 19-Feb. 26	Mar. 15	
Granite State					
Queen's Lace*	Feb. 12	Feb. 19	Feb. 12-Feb. 19	Mar. 15	
Yellow Lace*					
Ind. White*					
Dk. Ind. Yellow*					
Ind. Pink					
Little America					MAY 14
Linda Lou (Do not disbud)					
Queen of Pinks*					
Bonnaffon Deluxe*	Feb. 5	Feb. 12	Feb. 5-Feb. 12	Feb. 15	
¹ No-Pinch Indianapolis*	Feb. 14	No Pinch	Feb. 14-Feb. 18	Mar. 15	
Blazing Gold	Mar. 12	Mar. 19	Mar. 12-Mar. 19	Mar. 19	MAY 14
Sunray (Do not disbud)	Mar. 5	Mar. 12	Mar. 5-Mar. 12	Mar. 15	
Granite State					
Queen's Lace*	Feb. 26	Mar. 5	Feb. 26-Mar. 5	Mar. 15	
Yellow Lace*					
Ind. White*					
Dk. Ind. Yellow*					
Ind. Pink					
Queen of Pinks*					MAY 14
Bonnaffon Deluxe*	Feb. 19	Feb. 26	Feb. 19-Feb. 26	Feb. 26	
¹ No-Pinch Indianapolis*	Feb. 28	No Pinch	Feb. 28-Mar. 4	Mar. 15	

*Preferred varieties.

¹Really fine! Plant 5-7 cuttings per 6 inch pot; give 4 long days and have salable plants in 9-10 weeks.

Varieties	Pot 4 Cuttings per 6 inch pot	Pinch	Lighting Period	Start Shade	To Flower
Blazing Gold	Mar. 26	Apr. 2	Mar. 26-Apr. 2	Apr. 2	MAY 28
Sunray (Do not disbud)	Mar. 19	Mar. 26	Mar. 19-Mar. 26	Mar. 26	
Granite State					
Queen's Lace*	Mar. 12	Mar. 19	Mar. 12-Mar. 19	Mar. 19	
Yellow Lace*					
Ind. White*					
Dk. Ind. Yellow*					
Ind. Pink					JUNE 11
Queen of Pinks*					
Bonnaffon Deluxe*	Mar. 5	Mar. 12	Mar. 5-Mar. 12	Mar. 12	
¹ No-Pinch Indianapolis*	Mar. 14	No Pinch	Mar. 14-Mar. 18	Mar. 18	
Blazing Gold	Apr. 9	Apr. 16	Apr. 9-Apr. 16	Apr. 16	JUNE 25
Granite State	Apr. 2	Apr. 9	Apr. 2-Apr. 9	Apr. 9	
Sunray (Do not disbud)					
Queen's Lace*	Mar. 26	Apr. 2	Mar. 26-Apr. 2	Apr. 2	
Yellow Lace*					
Ind. White*					
Dk. Ind. Yellow*					
Richard Mandel					JULY 16
Queen of Pinks*					
Bonnaffon Deluxe*	Mar. 19	Mar. 26	Mar. 19-Mar. 26	Mar. 26	
¹ No-Pinch Indianapolis*	Mar. 28	No pinch	Mar. 28-Apr. 1	Apr. 1	
Blazing Gold*	Apr. 23	Apr. 30	Apr. 23-Apr. 30	Apr. 30	
Granite State	Apr. 16	Apr. 23	Apr. 16-Apr. 23	Apr. 23	
Sunray (Do not disbud)					
Queen's Lace	Apr. 9	Apr. 16	Apr. 9-Apr. 16	Apr. 16	JULY 30
Yellow Lace					
Ind. White					
Dk. Ind. Yellow					
Richard Mandel					
Queen of Pinks					
Bonnaffon Deluxe*	Apr. 2	Apr. 9	Apr. 2-Apr. 9	Apr. 9	
¹ No-Pinch Indianapolis*	Apr. 11	No Pinch	Apr. 11-Apr. 15	Apr. 15	AUGUST 6
Blazing Gold*	May 14	May 21	May 14-May 21	May 21	
Granite State	May 7	May 14	May 7-May 14	May 14	
Sunray (Do not disbud)					
Richard Mandel	Apr. 30	May 7	Apr. 30-May 7	May 7	
Bonnaffon Deluxe*	Apr. 23	Apr. 30	Apr. 23-Apr. 30	Apr. 30	
Blazing Gold*	May 28	June 4	May 28-June 4	June 4	
Granite State	May 21	May 28	May 21-May 28	May 28	AUGUST 6
Sunray (Do not disbud)					
Richard Mandel	May 14	May 21	May 14-May 21	May 21	
Bonnaffon Deluxe*	May 7	May 14	May 7-May 14	May 14	

TWO-PINCH SCHEDULE

Varieties	Pot 3 Cuttings per 6 inch pot	First Pinch	Lighting Period	Final Pinch	Start Shade	To Flower
Blazing Gold*	May 14	May 21	None	June 11	June 11	AUGUST 6
Granite State	May 7	May 14	Apr. 30-May 1	June 4	June 4	
Sunray (Do not disbud)						
Richard Mandel	Apr. 30	May 7	Apr. 23-May 1	May 28	May 28	
Bonnaffon DeLuxe*	Apr. 23	Apr. 30	Apr. 16-May 1	May 21	May 21	

*Preferred varieties.

¹Really fine! Plant 5-7 cuttings per 6 inch pot; give 4 long days and have salable plants in 9-10 weeks.

Varieties	Pot 3 Cuttings per 6 inch pot	Pinch	Lighting Period	Final Pinch	Start Shade	To Flower
Blazing Gold*	May 28	June 4	None	June 25	June 25	AUGUST 20
Granite State Sunray (Do not disbud)	May 21	May 28	None	June 18	June 18	
Richard Mandel	May 14	May 21	None	June 11	June 11	
Bonnaffon DeLuxe*	May 7	May 14	Apr. 30-May 1	June 4	June 4	
Blazing Gold	June 11	June 18	None	July 9	July 9	SEPTEMBER 3
Granite State Sunray (Do not disbud)	June 4	June 11	None	July 2	July 2	
Richard Mandel Gypsy (Do not disbud) Queen of Pinks*	May 28	June 4	None	June 25	June 25	
Bonnaffon DeLuxe*	May 21	May 28	None	June 18	June 18	
Blazing Gold	June 25	July 2	None	July 23	July 23	SEPTEMBER 17
Granite State Sunray (Do not disbud)	June 18	June 25	None	July 16	July 16	
Richard Mandel Gypsy (Do not disbud) Queen of Pinks*	June 11	June 18	None	July 9	July 9	
Bonnaffon DeLuxe*	June 4	June 11	None	July 2	July 2	
Blazing Gold	July 9	July 16	Aug. 1-Aug. 6	Aug. 6	Aug. 6	OCTOBER 1
Granite State Sunray (Do not disbud)	July 2	July 9	None	July 30	July 30	
Gypsy (Do not disbud) Queen of Pinks*	June 25	July 2	None	July 23	July 23	
Queen's Lace* Yellow Lace* Ind. White* Ind. Yellow* Ind. Pink Ind. Bronze	July 2	July 9	None	July 30	July 23	
Bonnaffon Deluxe*	June 18	June 25	None	July 16	July 16	
No-Pinch Indianapolis*	July 18	No Pinch	None	No Pinch	July 22	

TO FLOWER POT MUMS AT NORMAL DATES—

(No shade or light)

Varieties	Normal flowering date	Plant 3 cuttings per 6" pot	First pinch	Second pinch	Third (final) pinch	Varieties	Normal flowering date	Plant 3 cuttings per 6" pot	First pinch	Second pinch	Third (final) pinch					
*Blazing Gold	Oct. 25	July 5	July 12	Aug. 1	Aug. 21	*Bon. Deluxe	Nov. 20	July 5	July 12	Aug. 1	Sept. 3					
*Granite State	Oct. 25					Friendly Rival	Nov. 20									
*Gold Lode	Oct. 15					*Beaut. Lady	Nov. 25									
Queen's Lace	Nov. 1	July 21	July 28	Aug. 18	Sept. 8	Sun Gold	Nov. 25	July 5	July 12	Aug. 1	Sept. 8					
Yellow Lace	Nov. 1					Margaret	Dec. 5									
*Ind. White	Nov. 8					Moeller										
*Ind. Yellow	Nov. 5					Smith's Late	Dec. 15	July 5	July 12	Aug. 1	Sept. 13					
Ind. Pink	Nov. 8	White														
*Gypsy	Nov. 15	July 5	July 12	Aug. 1	Aug. 28	To grow two-pinch plants at normal flowering date, eliminate the first pinch, and plant cuttings two weeks prior to the second pinch date. Pinch once on "second pinch" date—and make final pinch on "final pinch" date given.										
*Queen of Pinks	Nov. 10															
Copperhead	Nov. 10															
Richard Mandel	Nov. 10															
*Little America	Nov. 10															

*Preferred varieties.

*Really fine! Plant 5-7 cuttings per 6 inch pot; give 4 long days, and have salable plants in 9-10 weeks.

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Yoder Bros.' Carnation Varieties

1952-'53 INTRODUCTIONS



YODER CARNATIONS

Geo. K. Ball looking over a bench of Yoder's new Carnations at West Chicago.

These are the first of a series of Carnations developed by Yoder Bros. of Barberton, Ohio from disease-free seedling strains. They are not disease-resistant, but they are as free of disease as you can get Carnation stock; and given the same care you would give ordinary commercial Carnation varieties, they will give you more quality flowers—more dollars per square foot of bench space than the regular varieties.

The demand for these varieties has been heavy—get your order in now to be sure of the quantities and varieties you want. Shipped from September thru June. F.O.B. Barberton, Ohio. Minimum order, 50 cuttings of a variety.

Achilles. A large, clear white; petals deeply serrated. Larger than Jupiter and more productive. Fast, early producer on long, strong stems. Free come-back in winter. All-year white.

Juno. A medium sized, flat, well-formed white flower; very full center; free come-back in winter. Good from early fall to late spring. Good keeper and shipper.

Titan. An intense crimson red, not quite as tall as Vulcan. Gets into production fast. Very full flower, outstanding flower substance. Consistently high production.

Cupid. Color a true Briarcliff pink; size medium. Very heavy producer, at its best December thru April. Flower is small in summer, but color remains excellent. A good keeper.

Eros. Light pink, similar to Aphrodite in color, except that it is deeper in the summer and early fall. Vigorous, heavy growth; long, strong stems. Early flowering and fast comeback. Large flowers with good average production. Some splitting in early fall, but disappears as soon as night temperatures are maintained. Fine for late spring, summer and early fall.

Siren. Scarlet, combining heavy production with fast comeback, uniform cropping, on stems of medium length. This variety grows to about the same height as Aphrodite and its production is equal to that of Apollo. Siren will out-produce Neptune. It should find a very important place among the varieties now available in this color class.

Cassandra. Yellow and pink variegated; very similar to Orion, but flowers are larger and stems stronger. Variety never splits; shows excellent flower substance; an outstanding keeper.

Pandora. Dark pink with sufficient suffusion of salmon to make it an exceptionally beautiful color under artificial light. This variety will fade during heat of summer, but is really a new color for December thru April. Good average production; fine flower substance.

PRICES above 8 new varieties:

	Per 100	Per 100
50 of a variety..	\$15.00	500-950 of a variety \$12.75
100-250 of a variety..	14.25	1000-2450 of a variety 12.00
300-450 of a variety..	13.50	2500-up of a variety.. 11.00

Quantity prices apply to any one variety only.

LAST SEASON'S INTRODUCTIONS

WHITE

Jupiter. A large, strong stemmed white.

Aurora. Another exceptionally large, white flower. Does well in late spring and early fall.

Adonis. A winter white. Satisfactory flower quality and good production. This variety is competition for Olivette.

PINK

Apollo. An outstanding salmon pink, larger than Netta. A good summer flower, well suited to all areas of the country.

Aphrodite. A clear light pink; outside petals bleach a little in late spring and early fall, but do not burn. A good, early producer with an early comeback, it is at its best in areas of relatively high light intensity.

Diana. Light pink; a good producer.

Venus. A show variety. Extra large, beautiful, long stemmed, salmon pink flower.

ROSE

Minerva. An unusual deep scarlet pink. Good summer flower—fades in very high light intensity, but fades uniformly with no white edge. Heavy break-back; fine keeper.

RED-SCARLET

Ceres. Beautiful King Cardinal color and exceptionally high production. Early, with heavy comeback.

Neptune. Scarlet (color resembles that of Wm. Sim); a free breaker, fine stretch. A very satisfactory variety.

MAROON

Vulcan. Excellent keeper, good comeback. Best maroon.

YELLOW

Midas. A good yellow Carnation. Production very satisfactory. Strongly recommended where Miller's Yellow is a problem.

VARIEGATED

Orion. Color resembles that of Glowing Ember. An excellent grower and producer.

Saturn. A beautiful warm bronze variegated; excellent under artificial light. Promises to become a very popular novelty.

PRICES above 14 varieties:

	Per 100	Per 100
50 of a variety..	\$13.50	500-950 of a variety.. \$11.45
100-250 of a variety..	12.80	1000-2450 of a variety 10.80
300-450 of a variety..	12.15	2500 and up of a variety 10.10

Quantity prices apply to any one variety only.



Off-Season Mum tests at West Chicago. Ratings are being recorded here in our "Gray Book" on several new varieties. These Gray Book ratings cover over 250 varieties flowered at appropriate seasons round the year, and are an important guide in our Mum programming work for other growers. Left, Jack McCluskie; right, Vic Ball.

Ball Off-Season **MUM PLANNING SERVICE**

Let's face it: off-season Mum schedules aren't the simplest things in the world—and the selection of proper varieties for different seasons is even more complicated. To assist our Mum customers with this important task, we have set up a Ball Mum Planning Service. In charge is our Mr. Jack McCluskie, a graduate of Penn. State, Floriculture Department. Jack has been devoting his full time to study of latest off-season Mum Schedule and variety work, has been in charge of our off-season variety testing program at West Chicago. He has programmed Mums for smaller retail growers—and for larger 3-crops-a-year market operators. The lifetime of experience by the Ball organization as market growers of Mums stands behind this service.

Why not let **specialists** give you a hand with your Mum planning? It's a free service to Ball Mum customers!

HOW THE SERVICE WORKS:

1. **You** furnish us the number and size of benches, when each will be available, when you want to be in flower. Specify proportion of Standards and Poms.
2. **We** work out a **complete** planting plan—all shading, lighting dates, temperatures, varieties recommended, and number of cuttings of each. It now goes to you.
3. **You** look it over—make any changes you feel necessary, especially as regards local market preferences for colors, etc.
4. Return program to us; we enter order for cuttings.

INTERESTED?

Write us, attention **Mum Planning Service.**

GEO. J. BALL, INC.

**WEST CHICAGO
ILLINOIS**



ORDER BLANK
Rooted Mum Cuttings—1953
GARDEN (HARDY) VARIETIES

Rec'd
Ck.
M.O.
Chg.
Remittance Enclosed

FIRM NAME _____
Date _____ Terms _____

STREET OR R. F. D. _____

CITY AND STATE _____

Ship By _____ Shipping address if different from regular mail address _____
Railroad Express ☐ When wanted _____
Air Freight ☐ _____
Air Express ☐ Substitutions will be _____
Check one of above. acceptable (check one) Yes _____ No _____

IMPORTANT!—To insure your order being shipped on the date you specify, we suggest that you order at least 6 months in advance of delivery date. ABSOLUTELY NO CHANGES ON YOUR ORDER CAN BE ACCEPTED WITHIN 30 DAYS OF DELIVERY DATE. Minimum order 500, 50 of a variety or multiples of 50. Please mark SPECIFIC shipping date.

LIMITATION OF WARRANTY. Geo. J. Ball, Inc., warrants to the extent of the purchase price that seeds, plants, or bulbs sold are as described on the container within recognized tolerances. Seller gives no other or further warranty, express or implied.

Quan.	Variety	Price 50 Only	Unit Price	Amount	Quan.	Variety	Price 50 Only	Unit Price	Amount	Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Adagio	\$4.00	.....	.....	.....	Chiquita	3.25	.....	.....	.....	Golden Hours	3.25	.....	.....
.....	Admiral	4.50	.....	.....	.....	Chris. Columbus	3.50	.....	.....	.....	Golden Spoon	3.00	.....	.....
.....	Alert	3.50	.....	.....	.....	Classic	4.00	.....	.....	.....	Goldrush	4.00	.....	.....
.....	Alex Cummings	6.25	.....	.....	.....	Cocktail	4.50	.....	.....	.....	Harbinger	3.25	.....	.....
.....	Allegro	3.25	.....	.....	.....	Comdr. Cushion	3.00	.....	.....	.....	Heather Bloom	3.00	.....	.....
.....	Amber Glow	3.25	.....	.....	.....	Courageous	3.25	.....	.....	.....	Holiday (H)	5.00	.....	.....
.....	Argonne	3.50	.....	.....	.....	Courtier	4.50	.....	.....	.....	Honeycomb	3.00	.....	.....
.....	Autumn Song	3.25	.....	.....	.....	Cydonia	3.00	.....	.....	.....	Horizon	4.50	.....	.....
.....	Avalanche	3.25	.....	.....	.....	Dark Jewell	3.00	.....	.....	.....	Huntsman	3.50	.....	.....
.....	Avalon	5.00	.....	.....	.....	Dawn Rose	3.50	.....	.....	.....	Imp. Early	.....	.....	.....
.....	Aviator	3.25	.....	.....	.....	Dee Dee Ahrens	3.00	.....	.....	.....	Wonder	3.00	.....	.....
.....	Bamboo	4.00	.....	.....	.....	Defiance (H)	3.50	.....	.....	.....	Irene	3.00	.....	.....
.....	Barbara Small	3.25	.....	.....	.....	Detroit	3.50	.....	.....	.....	James Eadie	3.25	.....	.....
.....	Beacon	4.00	.....	.....	.....	Dr. Longley	4.00	.....	.....	.....	James Stewart	4.00	.....	.....
.....	Betty	3.25	.....	.....	.....	Dream Girl	3.50	.....	.....	.....	Jewell	3.00	.....	.....
.....	Blueblood	4.50	.....	.....	.....	Drifted Snow	3.00	.....	.....	.....	Joybringer	4.00	.....	.....
.....	Bokhara	3.50	.....	.....	.....	Dwight Douglas	7.50	.....	.....	.....	Jubilee	6.25	.....	.....
.....	Bonfire	3.50	.....	.....	.....	Early Bronze	3.00	.....	.....	.....	Judith Anderson	3.00	.....	.....
.....	Brigadier	5.00	.....	.....	.....	Early Gold	3.50	.....	.....	.....	Kath. Lehman	4.50	.....	.....
.....	Bright Forecast	4.00	.....	.....	.....	Early Harvest	3.25	.....	.....	.....	King Midas	3.00	.....	.....
.....	Bronze Pyramid	3.25	.....	.....	.....	Early Yellow	3.00	.....	.....	.....	Lassie	4.50	.....	.....
.....	Burgundy	3.00	.....	.....	.....	Elizabeth Hood	5.00	.....	.....	.....	Lav. Lady	3.50	.....	.....
.....	Butterball (H)	3.00	.....	.....	.....	Enterprise	5.00	.....	.....	.....	Lee Powell	5.00	.....	.....
.....	Calcite	3.00	.....	.....	.....	Ermine	4.00	.....	.....	.....	Lemonade	4.00	.....	.....
.....	Calico	4.00	.....	.....	.....	Fairbow	3.50	.....	.....	.....	Lyric	4.50	.....	.....
.....	Canary Wonder	5.00	.....	.....	.....	Fascination	6.25	.....	.....	.....	Maestro	4.00	.....	.....
.....	Candlelight	3.00	.....	.....	.....	Fashion	4.00	.....	.....	.....	Magnificent	3.50	.....	.....
.....	Capt. J. Smith	3.00	.....	.....	.....	Fiesta	3.50	.....	.....	.....	Mahogany	.....	.....	.....
.....	Caravan	4.50	.....	.....	.....	Firecracker	4.50	.....	.....	.....	Cushion	3.50	.....	.....
.....	Card. Spoon	3.50	.....	.....	.....	Fireside	4.00	.....	.....	.....	Maj. Cushion	3.00	.....	.....
.....	Carmelita	4.00	.....	.....	.....	Flaxen Beauty	5.00	.....	.....	.....	Malinda Brown	6.25	.....	.....
.....	Carmine Queen	4.00	.....	.....	.....	Fragrant	3.25	.....	.....	.....	Marionette	4.00	.....	.....
.....	Carnival	3.50	.....	.....	.....	Garland	4.50	.....	.....	.....	Masquerade	3.50	.....	.....
.....	Cecil Beed	5.00	.....	.....	.....	Genista	7.50	.....	.....	.....	Mayford's	.....	.....	.....
.....	Champ. Cushion	3.00	.....	.....	.....	Gladness	3.50	.....	.....	.....	Triumph	3.50	.....	.....
.....	Chas. Nye	3.25	.....	.....	.....	Goblin	3.00	.....	.....	.....	Meditation	3.25	.....	.....
.....	Chippewa	3.25	.....	.....	.....	Golden Carpet	4.50	.....	.....	.....	Miguel	7.50	.....	.....

GARDEN (Hardy) VARIETIES

Quan.	Variety	Price 50 Only	Unit Price	Amount	Quan.	Variety	Price 50 Only	Unit Price	Amount	Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Ming	5.00	.....	.....	.....	Purple Star	3.00	.....	.....	.....	Sweepstake	4.00	.....	.....
.....	Misty Maid	3.50	.....	.....	.....	Rajah	4.50	.....	.....	.....	Sweetheart	4.00	.....	.....
.....	Mme. Cadillac	7.50	.....	.....	.....	Red Glow	3.50	.....	.....	.....	Symphony	3.00	.....	.....
.....	Mogul	5.00	.....	.....	.....	Red Gold	3.25	.....	.....	.....	Tangerine	3.25	.....	.....
.....	Mona	4.00	.....	.....	.....	Red Riding Hood	3.25	.....	.....	.....	Tapestry	4.50	.....	.....
.....	Monogram	4.00	.....	.....	.....	Red Velvet	3.25	.....	.....	.....	The Chief	3.00	.....	.....
.....	Moonlight	5.00	.....	.....	.....	Remembrance	3.50	.....	.....	.....	Tiffany Rose	3.00	.....	.....
.....	Mrs. DuPont	3.50	.....	.....	.....	Renown	4.00	.....	.....	.....	Treasure	4.50	.....	.....
.....	Mrs. Rotan	3.25	.....	.....	.....	Robinhue	4.00	.....	.....	.....	Vanguard	5.00	.....	.....
.....	Myrtle Walgreen	3.50	.....	.....	.....	Rodell Imp.	2.75	.....	.....	.....	Violet	3.25	.....	.....
.....	Nocturne	4.00	.....	.....	.....	Rose Spoon	3.00	.....	.....	.....	Welcome	3.00	.....	.....
.....	Nokomis	4.00	.....	.....	.....	Rosita	3.25	.....	.....	.....	Wh. Bounty	3.50	.....	.....
.....	Norona	4.50	.....	.....	.....	Rouge Cushion	5.00	.....	.....	.....	Wh. Cloud	3.50	.....	.....
.....	Nye's Favorite	3.50	.....	.....	.....	Royal Robe	6.25	.....	.....	.....	Wh. Cushion	3.00	.....	.....
.....	Nytoda	5.00	.....	.....	.....	Ruby Pompon	3.00	.....	.....	.....	White Spoon	3.00	.....	.....
.....	Old Gold	3.25	.....	.....	.....	Ruthann Lehman	4.50	.....	.....	.....	White Tower	3.50	.....	.....
.....	Olive Longland	2.75	.....	.....	.....	Sal. Precose	3.50	.....	.....	.....	Wh. Wonder	3.00	.....	.....
.....	Orchid Helen	4.50	.....	.....	.....	Salute	4.00	.....	.....	.....	Winsome	3.50	.....	.....
.....	Orchid Spoon	3.50	.....	.....	.....	Sam Williston	3.00	.....	.....	.....	Winterset (H)	3.25	.....	.....
.....	Orloma	7.50	.....	.....	.....	Scarlet Crimson	3.25	.....	.....	.....	Witchery	4.00	.....	.....
.....	Orpheus	7.50	.....	.....	.....	Sept. Bronze	3.00	.....	.....	.....	W. P. Snyder	3.50	.....	.....
.....	Orsona	7.50	.....	.....	.....	Sept. Cheer	3.00	.....	.....	.....	Wychwood	3.25	.....	.....
.....	Panorama	5.00	.....	.....	.....	Sept. Dawn	3.00	.....	.....	.....	Yel. Avalanche	3.25	.....	.....
.....	Paper White	4.00	.....	.....	.....	Sept. Sunshine	3.25	.....	.....	.....	Yel. Blanket	3.25	.....	.....
.....	Pat. Lehman	4.50	.....	.....	.....	Serenade	4.00	.....	.....	.....	Yel. Chris	.....	.....	.....
.....	Pepita	3.50	.....	.....	.....	Shalimar (H)	4.50	.....	.....	.....	Columbus	3.50	.....	.....
.....	Pink Beauty	3.00	.....	.....	.....	Silver Ball	2.75	.....	.....	.....	Yel. Cushion	3.00	.....	.....
.....	Pink Opal	5.00	.....	.....	.....	Silverplate	4.00	.....	.....	.....	Yel. Irene	3.00	.....	.....
.....	Pink Surprise	3.50	.....	.....	.....	Snow Fall	3.50	.....	.....	.....	Yel. Spoon	3.50	.....	.....
.....	Polar Ice	3.50	.....	.....	.....	Spellbound	3.25	.....	.....	.....	Yel. Supreme (H)	3.00	.....	.....
.....	Polaris	4.00	.....	.....	.....	Spindrift	6.25	.....	.....	.....	Youdath's White	3.00	.....	.....
.....	Pomponette	3.00	.....	.....	.....	Sunapee	3.25	.....	.....	.....	.....	.....	.....	.....

THIS TABLE INDICATES PRICES FOR MORE THAN 50 OF A VARIETY ON ONE SHIPMENT

50 Only	100-250 Per 100	300-450 Per 100	500-950 Per 100	1000-2450 Per 100	2500-up Per 100
\$2.75	\$5.20	\$4.95	\$4.65	\$4.40	\$4.10
3.00	5.70	5.40	5.10	4.80	4.50
3.25	6.15	5.85	5.50	5.20	4.85
3.50	6.65	6.30	5.95	5.60	5.25
4.00	7.60	7.20	6.80	6.40	6.00
4.50	8.55	8.10	7.65	7.20	6.75
5.00	9.50	9.00	8.50	8.00	7.50
6.25	12.00	11.50	11.00	10.50	10.00
7.50	14.50	14.00	13.50	13.00	12.50

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500 rooted cuttings, our selection; 50 each of 10 taller varieties for cutting. \$25.00.

SPECIAL OFFER No. 2

500 rooted cuttings, our selection; 50 each of 10 medium to short varieties for pots or bedding. \$25.00.

SPECIAL OFFER No. 3

500 rooted cuttings, our selection; 50 each of 5 varieties for cutting. 50 each of 5 varieties for bedding. \$25.00.

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IMPORTANT!—To insure your order being shipped on the date you specify, we suggest that you order at least 6 months in advance of delivery date. ABSOLUTELY NO CHANGES ON YOUR ORDER CAN BE ACCEPTED WITHIN 30 DAYS OF DELIVERY DATE. Minimum order 500, 50 of a variety or multiples of 50. Please mark SPECIFIC shipping date.

LIMITATION OF WARRANTY. Geo. J. Ball, Inc., warrants to the extent of the purchase price that seeds, plants, or bulbs sold are as described on the container within recognized tolerances. Seller gives no other or further warranty, express or implied.

WHITE POMPONS, SINGLES and ANEMONES

Quan.	Variety	Price 50 Only	Unit Price	Amount
7-Week Varieties				
.....	Sept. Morn.	\$3.50	.....	.....
.....	White Wonder	3.00	.....	.....
.....	Chris. Columbus	3.50	.....	.....
.....	Avalanche	3.25	.....	.....
.....	Wh. Cloud	3.50	.....	.....
.....	Horizon	4.50	.....	.....
.....	Classic	4.00	.....	.....
.....	Maestro	4.00	.....	.....
.....	Renown	4.00	.....	.....
.....	Silverplate	4.00	.....	.....

8-Week Varieties				
.....	Calif. Wh. Daisy	3.50	.....	.....
.....	Irene	3.00	.....	.....
.....	Norona	4.50	.....	.....
.....	Silver Ball	2.75	.....	.....
.....	Minong	2.75	.....	.....
.....	Pristine	3.50	.....	.....

9-Week Varieties				
.....	Cotton Top	3.00	.....	.....
.....	Keepsake	4.50	.....	.....
.....	Pinocchio	3.00	.....	.....
.....	Popcorn	3.50	.....	.....
.....	Shooting Star	4.50	.....	.....
.....	Songster	4.00	.....	.....
.....	White Popcorn	4.50	.....	.....
.....	Arcadia	3.00	.....	.....
.....	Halo	4.00	.....	.....
.....	Seagull	3.00	.....	.....
.....	White Dot	3.00	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
10-Week Varieties				
.....	Encore	3.50	.....	.....
.....	Kolowa	4.00	.....	.....
.....	Madonna	4.50	.....	.....
.....	White Anemone	3.25	.....	.....
.....	White Mensa	3.00	.....	.....
.....	Moonglow	3.50	.....	.....
.....	Rev. Bushnell	3.25	.....	.....
.....	Dynamo	4.50	.....	.....
.....	Illini Igloo	5.00	.....	.....
.....	Little America	2.75	.....	.....
.....	Nagona	3.50	.....	.....
.....	Shasta	3.00	.....	.....
.....	Shasta Daisy	3.00	.....	.....
.....	Vesper	3.00	.....	.....
.....	Illini Snowdrift	3.50	.....	.....
.....	Matchless	3.00	.....	.....

11-Week Varieties				
.....	Eskimo	4.50	.....	.....
.....	Lakme	3.50	.....	.....
.....	Sculpture	4.50	.....	.....
.....	Snowflurry	4.00	.....	.....
.....	White Freida	3.00	.....	.....
.....	White Norma	3.25	.....	.....
.....	Highbrow	4.00	.....	.....
.....	Long Island	.....	.....	.....
.....	Beauty	2.75	.....	.....
.....	Nevada	3.00	.....	.....
.....	Priscilla	3.00	.....	.....
.....	Seafoam	3.00	.....	.....
.....	Crystal Beauty	3.50	.....	.....
.....	Illini Bountiful	3.50	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Paramount	4.00	.....	.....
12-Week Varieties				
.....	White Lady	5.00	.....	.....
.....	White Yuletide	3.00	.....	.....
.....	Crystal Valencia	5.00	.....	.....
.....	White Valencia	3.50	.....	.....
.....	Belray	4.00	.....	.....
.....	Cordova	3.00	.....	.....
.....	Fortune	4.00	.....	.....
.....	Monarch	4.50	.....	.....

13-Week Varieties				
.....	Acclaim	4.50	.....	.....
.....	Cameo	3.00	.....	.....
.....	Cotillion	4.50	.....	.....
.....	Spangles	4.00	.....	.....
.....	Swan	3.50	.....	.....
.....	Carrara	5.00	.....	.....
.....	Snowdrop	4.50	.....	.....
.....	Snow Queen	4.50	.....	.....
.....	White Supreme	3.25	.....	.....
.....	Yukon	3.00	.....	.....

14-Week Varieties				
.....	Snowcrest	3.50	.....	.....
.....	Garza	3.00	.....	.....
.....	Satellite	4.50	.....	.....
.....	Silversmith	3.50	.....	.....
.....	Snowcap	3.50	.....	.....
.....	Heirloom	4.00	.....	.....
.....	Revelation	2.75	.....	.....
.....	Snow	3.00	.....	.....
.....	Illini Snowbound	5.00	.....	.....

YELLOW POMPONS, SINGLES and ANEMONES

Quan.	Variety	Price 50 Only	Unit Price	Amount
7-Week Varieties				
.....	Yel. Chris.	.....	.....	.....
.....	Columbus	3.50	.....	.....
.....	Moonlight	5.00	.....	.....
.....	Honeycomb	3.00	.....	.....
.....	D.C.P.	3.50	.....	.....
.....	Polaris	4.00	.....	.....
.....	Chas. Nye	3.25	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Garland	4.50	.....	.....
.....	Yellow Spoon	3.50	.....	.....
.....	Bright Forecast	4.00	.....	.....
.....	Goldrush	4.00	.....	.....
.....	Treasure	4.50	.....	.....
.....	Lemonade	4.00	.....	.....
.....	Sweepstake	4.00	.....	.....
8-Week Varieties				
.....	Yellow Irene	3.00	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Moondrift	5.00	.....	.....
.....	Rodell Imp.	2.75	.....	.....
9-Week Varieties				
.....	Cream Dot	3.00	.....	.....
.....	Gold Coast	2.75	.....	.....
.....	Golden Herald	3.00	.....	.....
.....	Red Dot	3.50	.....	.....

GREENHOUSE VARIETIES

YELLOW POMPONS, SINGLES and ANEMONES (Cont'd)

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Sunup	4.50	.....	.....
.....	Yellow Dot	3.00	.....	.....
.....	Yel. Firebird	3.25	.....	.....
.....	Yel. Arcadia	3.00	.....	.....
.....	Calif. Yel. Daisy	3.00	.....	.....
.....	Ivory Sea Gull	3.00	.....	.....
.....	Mary Gold	2.75	.....	.....
.....	Mary Hall	2.75	.....	.....
.....	Sch. Daisy	3.50	.....	.....
.....	Starbright	3.50	.....	.....
.....	Yel. Cassandra	3.50	.....	.....
.....	Yel. Daisy	3.00	.....	.....
.....	Yel. Doty	3.00	.....	.....
.....	Yel. Halo	5.00	.....	.....
.....	Yel. Sea Gull	3.00	.....	.....
.....	Sunray	2.75	.....	.....

10-Week Varieties

.....	Brigadoon	4.50	.....	.....
.....	Barcarole	3.00	.....	.....
.....	Constellation	3.00	.....	.....
.....	Crescendo	4.00	.....	.....
.....	Golden Mensa	3.00	.....	.....
.....	Nuggets	2.75	.....	.....
.....	Pixie	3.25	.....	.....
.....	Mason's Yellow	3.25	.....	.....
.....	Yel. Nagona	3.50	.....	.....
.....	Yel. Shasta	3.00	.....	.....
.....	Illini Goldcup	4.00	.....	.....

11-Week Varieties

.....	Forty-Niner	3.50	.....	.....
.....	Golden Chord	3.50	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Princeton	3.25	.....	.....
.....	Thorobred	4.50	.....	.....
.....	Yellow Fellow	3.00	.....	.....
.....	Illini Brave	3.50	.....	.....
.....	Tacoma	5.00	.....	.....
.....	Susanne Miller	3.25	.....	.....
.....	Bojangles	4.00	.....	.....
.....	Illini Sunspot	5.00	.....	.....
.....	Klondike	4.00	.....	.....
.....	Lollipop	4.00	.....	.....
.....	Pippin	4.50	.....	.....
.....	Yellow Highbrow	5.00	.....	.....
.....	Yel. L. I. Beauty	3.50	.....	.....
.....	Yel. Nevada	3.00	.....	.....

12-Week Varieties

.....	Champagne	3.50	.....	.....
.....	Goldenrod	4.50	.....	.....
.....	Goldsmith	3.25	.....	.....
.....	Highlander	4.50	.....	.....
.....	Illini Gold	3.25	.....	.....
.....	Illini Sunny	5.00	.....	.....
.....	Sunnyside	3.00	.....	.....
.....	Yel. Priscilla	4.50	.....	.....
.....	Yel. Rolinda	3.00	.....	.....
.....	Golden Jane	3.00	.....	.....
.....	Yel. Valencia	3.00	.....	.....
.....	Yel. Cordova	3.00	.....	.....
.....	Nosegay	4.50
.....	Omega	3.00
.....	Yel. Galaxy	5.00

13-Week Varieties

.....	Golden Harvest	3.50
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Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Brandywine	4.50
.....	Cinderella	3.50
.....	Goldtone	4.00	.....	.....
.....	Jack-Pot	4.50	.....	.....
.....	Symmetry	4.50	.....	.....
.....	Yel. Cameo	3.00	.....	.....
.....	Yel. Spangles	5.00	.....	.....
.....	Yel. Swan	3.50	.....	.....
.....	Yel. Supreme	3.25	.....	.....
.....	Challenge	4.00	.....	.....
.....	Corsair	4.50	.....	.....

14-Week Varieties

.....	Cream Snowcrest	5.00	.....	.....
.....	Yel. Riviera	3.50	.....	.....
.....	Yel. Snowcrest	4.50	.....	.....
.....	Dec. Gold	3.00	.....	.....
.....	Sequin	4.00	.....	.....
.....	Shamrock	4.00	.....	.....
.....	Yel. Garza	3.00	.....	.....
.....	Gold Seal	5.00	.....	.....
.....	Revelry	4.50	.....	.....
.....	Sunkist	3.50	.....	.....
.....	Sunrise	4.50	.....	.....
.....	Vibrant	3.00	.....	.....
.....	Golden Anniv.	3.50	.....	.....
.....	Siren	4.00	.....	.....
.....	Yel. Revelation	3.50	.....	.....
.....	Yel. Snow	3.00	.....	.....
.....	Yuleflame	3.50	.....	.....
.....	Ill. Yel.	.....	.....	.....
.....	Snowbound	5.00	.....	.....

BRONZE POMPONS, SINGLES and ANEMONES

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Bonfire	3.50	.....	.....
.....	Marionette	4.00	.....	.....
.....	Mogul	5.00	.....	.....
.....	W. P. Snyder	3.50	.....	.....
.....	Avalon	5.00	.....	.....
.....	Firecracker	4.50	.....	.....
.....	Huntsman	3.50	.....	.....
.....	Mona	4.00	.....	.....
.....	Panorama	5.00	.....	.....
.....	Bamboo	4.00	.....	.....
.....	Blueblood	4.50	.....	.....
.....	Calico	4.00	.....	.....
.....	Caravan	4.50	.....	.....
.....	Carmine Queen	4.00	.....	.....
.....	Carnival	3.50	.....	.....
.....	Fireside	4.00	.....	.....
.....	Red Velvet	3.25	.....	.....
.....	Remembrance	3.50	.....	.....
.....	Admiral	4.50	.....	.....
.....	Carmelita	4.00	.....	.....
.....	Fashion	4.00	.....	.....
.....	Mrs. DuPont	3.50	.....	.....
.....	Nocturne	4.00	.....	.....
.....	Nokomis	4.00	.....	.....
.....	Nytoda	5.00	.....	.....
.....	Witchery	4.00	.....	.....

8-Week Varieties

.....	Cocktail	4.50	.....	.....
.....	Detroit	3.50	.....	.....
.....	Rajah	4.50	.....	.....
.....	Red Glow	3.50	.....	.....
.....	Robinhue	4.00	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	James Stewart	4.00	.....	.....
.....	Adelaide	3.00	.....	.....
.....	Jemima	3.00	.....	.....
.....	Br. Mary	.....	.....	.....
.....	McArthur	3.50	.....	.....

9-Week Varieties

.....	Bonton	3.25	.....	.....
.....	Bronze Dot	3.00	.....	.....
.....	Buckskin	4.00	.....	.....
.....	Firebird	3.00	.....	.....
.....	October Bronze	3.25	.....	.....
.....	Firefly	4.00	.....	.....
.....	Bronze Daisy	3.00	.....	.....
.....	Buccaneer	4.50	.....	.....
.....	Imp. Bronze Daisy	3.50	.....	.....
.....	Imp. Red Daisy	3.50	.....	.....
.....	Red Seneca	3.50	.....	.....
.....	Navaho	3.00	.....	.....
.....	Seneca	3.25	.....	.....
.....	Red Daisy	3.25	.....	.....
.....	Br. Buckingham	3.50	.....	.....

10-Week Varieties

.....	Comanche	3.50	.....	.....
.....	Beauregard	4.00	.....	.....
.....	Bittersweet	3.00	.....	.....
.....	Butterscotch	3.50	.....	.....
.....	Cassandra	3.00	.....	.....
.....	Magician	4.00	.....	.....
.....	Red Rust	3.00	.....	.....
.....	Rubicon	3.50	.....	.....
.....	Gypsy	3.00	.....	.....
.....	Bronze Linda Lou	3.50	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Bronze Thyra	3.50	.....	.....
.....	Bronze Tuxedo	3.25	.....	.....
.....	Chanticleer	4.00	.....	.....
.....	Chevron	4.00	.....	.....
.....	Copperhead	4.00	.....	.....
.....	Europa	3.50	.....	.....
.....	Illini Burma	4.50	.....	.....
.....	Mason's Bronze	3.25	.....	.....
.....	Mason's Red	3.25	.....	.....
.....	Samovar	3.50	.....	.....
.....	Sylvanna	3.00	.....	.....
.....	The Titan	3.25	.....	.....
.....	Gold Braid	4.50	.....	.....
.....	Br. Masterpiece	3.00	.....	.....
.....	Dk. Br.	.....	.....	.....
.....	Masterpiece	3.50	.....	.....
.....	Illini Rye	4.50	.....	.....
.....	Illini Tangier	5.00	.....	.....
.....	Paragon	4.00	.....	.....

11-Week Varieties

.....	Br. Princeton	3.25	.....	.....
.....	Illini Honey	3.50	.....	.....
.....	Mrs. Dewey	4.00	.....	.....
.....	Red Princeton	3.25	.....	.....
.....	Shalimar	4.50	.....	.....
.....	Illini Redhead	3.50	.....	.....
.....	Bourbon	3.50	.....	.....
.....	Illini Warrior	3.50	.....	.....
.....	Legal Tender	2.75	.....	.....
.....	Rusticon	3.00	.....	.....
.....	Thelma	4.50	.....	.....
.....	Carousel	4.00	.....	.....

GREENHOUSE VARIETIES

BRONZE POMPONS, SINGLES and ANEMONES (Cont'd)

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Red Rolinda	3.00	.....	.....
.....	Bronze Minuet	3.50	.....	.....
.....	Festival	3.50	.....	.....

12-Week Varieties

.....	Br. Goldsmith	3.25	.....	.....
.....	Falcon	4.00	.....	.....
.....	Yolanda	3.50	.....	.....
.....	Wanakah	5.00	.....	.....
.....	Apricot Valencia	3.00	.....	.....
.....	Crimson Valencia	3.50	.....	.....
.....	Indian Head	4.00	.....	.....
.....	Amberina	4.50	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Galaxy	3.50	.....	.....
13-Week Varieties				
.....	Br. Enchantress	3.25	.....	.....
.....	Dazzler	4.50	.....	.....
.....	Debonair	3.00	.....	.....
.....	Mahogany Viking	3.50	.....	.....
.....	Bronze Supreme	3.25	.....	.....
.....	Cavalcade	3.50	.....	.....
.....	Harlequin	4.50	.....	.....
.....	Holiday	3.50	.....	.....
.....	Pageantry	4.00	.....	.....
.....	Red Supreme	3.50	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Christmas Star	3.50	.....	.....
.....	Bronze Minstrel	3.50	.....	.....
.....	Dk. Br. Minstrel	5.00	.....	.....

14-Week Varieties

.....	Bronze Riviera	3.50	.....	.....
.....	Christ. Greeting	4.00	.....	.....
.....	Claret	4.50	.....	.....
.....	Sarong	3.25	.....	.....
.....	Topaz	4.50	.....	.....
.....	Merrymaker	3.50	.....	.....
.....	Poinsettia	4.50	.....	.....

PINK POMPONS, SINGLES and ANEMONES

Quan.	Variety	Price 50 Only	Unit Price	Amount
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7-Week Varieties

.....	Misty Maid	3.50
.....	Early Wonder	3.00
.....	Spellbound	3.25
.....	Argonne	3.50
.....	Brigadier	5.00	.....	.....
.....	Courtier	4.50	.....	.....
.....	Dream Girl	3.50	.....	.....
.....	Joybringer	4.00	.....	.....
.....	Lassie	4.50	.....	.....
.....	Orchid Spoon	3.50	.....	.....
.....	Ponca	3.50	.....	.....
.....	Serenade	4.00	.....	.....
.....	Sweetheart	4.00	.....	.....
.....	Adagio	4.00	.....	.....
.....	Allegro	3.25	.....	.....
.....	Lav. Lady	3.50	.....	.....
.....	Masquerade	3.50	.....	.....
.....	Ronnie	3.50	.....	.....
.....	Salute	4.00	.....	.....

8-Week Varieties

.....	Dark Jewell	3.00	.....	.....
.....	Eliz. Hood	5.00	.....	.....
.....	Enterprise	5.00	.....	.....
.....	Jewell	3.00	.....	.....
.....	C. Yosick	3.00	.....	.....
.....	Capt. Cook	3.00	.....	.....
.....	Pink Sprite	3.50	.....	.....
.....	Mary McArthur	3.50	.....	.....

9-Week Varieties

.....	Betty Rose	3.25	.....	.....
.....	Edith Roberts	3.50
.....	Jessie	3.00

Quan.	Variety	Price 50 Only	Unit Price	Amount
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.....	October Pink	3.25
.....	Pink Dot	3.00
.....	Reward	4.00
.....	Arbutus	5.00
.....	Ballerina	3.50
.....	Lillian Doty	3.00
.....	Pink Cal. Daisy	3.50	.....	.....
.....	Rainbow	5.00	.....	.....
.....	W. H. Buckingham	3.50	.....	.....

10-Week Varieties

.....	Dreamboat	3.00	.....	.....
.....	Dark Bulkeley	3.25	.....	.....
.....	Dark Linda Lou	3.00	.....	.....
.....	Linda Lou	3.00	.....	.....
.....	Miss Clarinda	4.50	.....	.....
.....	Pandora	4.50	.....	.....
.....	Soprano	3.50	.....	.....
.....	Thyra	3.00	.....	.....
.....	Tuxedo	3.25	.....	.....
.....	Masterpiece	3.00	.....	.....
.....	Memorial	4.50	.....	.....
.....	Rose Masterpiece	3.50	.....	.....
.....	Sal. Masterpiece	3.50	.....	.....
.....	Taffeta	4.00	.....	.....

11-Week Varieties

.....	Brocade	3.00	.....	.....
.....	Dark Norma	3.25	.....	.....
.....	Freida	3.00	.....	.....
.....	Orchid Beauty	3.00	.....	.....
.....	Almega	5.00	.....	.....
.....	Dk. L. I. Beauty	5.00	.....	.....
.....	Evening Star	4.50	.....	.....
.....	Grand Slam	4.50
.....	Majorette	4.00

Quan.	Variety	Price 50 Only	Unit Price	Amount
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.....	Pk. L. I. Beauty	3.50
.....	Pinky	4.00
.....	Vivacious Lady	4.50
.....	Minuet	3.00

12-Week Varieties

.....	Beautiful Lady	3.00	.....	.....
.....	Hasegawa Pink	3.50	.....	.....
.....	Princess	4.50	.....	.....
.....	Dark Valencia	3.00	.....	.....
.....	Dub. Valencia	5.00	.....	.....
.....	Orchid Valencia	4.50	.....	.....
.....	Salmon Valencia	4.50	.....	.....
.....	Valencia	3.00	.....	.....
.....	Heritage	4.50	.....	.....

13-Week Varieties

.....	Dk. Enchantress	3.50	.....	.....
.....	Enchantress	3.25	.....	.....
.....	Dk. Pk. Supreme	3.25	.....	.....
.....	Debutante	4.00	.....	.....
.....	Illini Camille	4.00	.....	.....
.....	Imp. Dk. Supreme	3.50	.....	.....
.....	Lt. Pk. Minstrel	5.00	.....	.....
.....	Minstrel	3.50	.....	.....

14-Week Varieties

.....	Coronet	4.00	.....	.....
.....	Dark Riviera	3.50	.....	.....
.....	Riviera	3.00	.....	.....
.....	Serrated Riviera	5.00	.....	.....
.....	Defiance	3.50	.....	.....
.....	Medallion	4.00	.....	.....
.....	Pk. Treas. Island	2.75	.....	.....
.....	Rosalind	3.00	.....	.....
.....	Rose Medallion	5.00	.....	.....

LARGE FLOWERING STANDARDS

WHITE

Quan.	Variety	Price 50 Only	Unit Price	Amount
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8-Week Varieties

.....	Silver Sheen	3.00
.....	White Chief	3.50
.....	Christina	3.50

9-Week Varieties

.....	Ambassador	3.00	.....	.....
.....	Granite State	3.00	.....	.....
.....	Albatross	3.00	.....	.....
.....	Kay Tashima	3.50	.....	.....
.....	Queen's Lace	3.50	.....	.....
.....	Snow White	3.00
.....	Wilson's White	4.50

Quan.	Variety	Price 50 Only	Unit Price	Amount
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10-Week Varieties

.....	Betsy Ross	3.00
.....	Giant Betsy Ross	3.50
.....	Ind. White	3.00
.....	Richard Mandel	3.00
.....	Wh. Rayonnante	3.25	.....	.....
.....	Crystal Queen	5.00	.....	.....
.....	Jean Elizabeth	3.25	.....	.....
.....	Monument	3.00	.....	.....
.....	White Pockett	3.25	.....	.....

11-Week Varieties

.....	Sterling	3.50
.....	Marketeer	3.00

Quan.	Variety	Price 50 Only	Unit Price	Amount
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.....	Indiana Market	3.50
.....	Mefo	3.00
.....	White Frick	3.00

12-Week Varieties

.....	Chattanooga	3.00
.....	December Glory	3.00	.....	.....
.....	Margaret Moeller	3.00	.....	.....

13-Week Varieties

.....	December White	3.25	.....	.....
.....	White Mistletoe	3.25	.....	.....
.....	Snowline	4.00	.....	.....
.....	Smith's White	3.25	.....	.....

GREENHOUSE VARIETIES

YELLOW STANDARDS

Quan.	Variety	Price 50 Only	Unit Price	Amount
8-Week Varieties				
.....	Harvest Golden	3.50	.....	.....
.....	Celestra	3.00	.....	.....
.....	Gold Lode	3.00	.....	.....
.....	Butterball	3.50	.....	.....
.....	Mrs. Kidder	2.75	.....	.....
.....	Blazing Gold	3.00	.....	.....

9-Week Varieties				
.....	Moribana	5.00	.....	.....
.....	Smith's	.....	.....	.....
.....	Superlative	3.25	.....	.....
.....	Sunglow	2.75	.....	.....
.....	Yel. Ambassador	3.00	.....	.....
.....	Yel. Bergen	3.25	.....	.....
.....	Gold Lace	5.00	.....	.....
.....	Golden Glory	3.25	.....	.....
.....	Good News	3.25	.....	.....
.....	Hooked Yel. Lace	5.00	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
8-Week Varieties				
.....	Dalwin	5.00	.....	.....
.....	Amber Bright	3.50	.....	.....
.....	Mayford's	.....	.....	.....
.....	Triumph	3.50	.....	.....

9-Week Varieties				
.....	Hilda Bergen	3.25	.....	.....
.....	Glitters	3.25	.....	.....
.....	Red Glitters	3.50	.....	.....
.....	Apricot Queen	3.25	.....	.....
.....	Ivanhoe	3.25	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
8-Week Varieties				
.....	Pink Chief	3.00	.....	.....
.....	Major Bowes	3.00	.....	.....

9-Week Varieties				
.....	Mary Garden	4.00	.....	.....
.....	Mrs. R. A. Walker	3.50	.....	.....
.....	Sugar Plum	4.00	.....	.....

10-Week Varieties				
.....	Indianapolis Pk.	3.00	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Yellow Lace	3.50	.....	.....
10-Week Varieties				
.....	Dk. Ind. Yel.	3.50	.....	.....
.....	Imp. Ind. Yel.	5.00	.....	.....
.....	Ind. Yellow	3.00	.....	.....
.....	Sue Sally Jones	3.50	.....	.....
.....	Yel. Rayonnante	3.50	.....	.....
.....	Jamboree	4.00	.....	.....
.....	Yel. Beauty	3.25	.....	.....
.....	Yel. Monument	3.00	.....	.....
.....	Yel. Pockett	3.25	.....	.....
.....	Yel. Queen	3.25	.....	.....
.....	Honey Dew	3.25	.....	.....

11-Week Varieties				
.....	Lorraine	3.50	.....	.....
.....	Yel. Marketeer	5.00	.....	.....
.....	Bonnaffon Deluxe	2.75	.....	.....
.....	Cream Mefo	3.50	.....	.....

BRONZE AND RED STANDARDS

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Detroit News	3.25	.....	.....
.....	Royal Bronze	5.00	.....	.....

10-Week Varieties				
.....	Dk. Ind. Bronze	5.00	.....	.....
.....	Gena Harwood	3.50	.....	.....
.....	Ind. Bronze	3.00	.....	.....
.....	Ind. Gold. Bronze	4.50	.....	.....
.....	Mamoru	3.00	.....	.....
.....	Nomago	4.50	.....	.....
.....	Waikiki	3.50	.....	.....
.....	Anaconda	3.00	.....	.....
.....	Br. Orchid Queen	3.25	.....	.....

PINK STANDARDS

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	J. W. Prince	3.25	.....	.....
.....	Rayonnante	3.25	.....	.....
.....	Dk. Orchid Queen	3.25	.....	.....
.....	Lavender Queen	3.50	.....	.....
.....	Orchid Queen	3.25	.....	.....
.....	Peggy Hoover	3.50	.....	.....
.....	Pink Pockett	3.25	.....	.....
.....	Queen of Pinks	3.00	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Friendly Rival	3.00	.....	.....
.....	Purdue	3.50	.....	.....
.....	Yel. Mefo	3.00	.....	.....
.....	Harvester	3.00	.....	.....
.....	Marie DePetris	3.00	.....	.....

12-Week Varieties				
.....	Golden Pearson	3.00	.....	.....
.....	Mrs. Calkins	3.50	.....	.....
.....	Sungold	3.00	.....	.....
.....	Yel. Chattanooga	3.00	.....	.....
.....	Golden Mrs. Ross	3.00	.....	.....
.....	Yel. Moeller	3.50	.....	.....

13-Week Varieties				
.....	Chalice	4.50	.....	.....
.....	Golden Mistletoe	3.25	.....	.....
.....	Dauntless	3.50	.....	.....
.....	Meteore	3.25	.....	.....
.....	Tobin's Yellow	3.25	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
.....	Mrs. Stahelin	3.50	.....	.....
.....	Oakdale	4.00	.....	.....
.....	Garnet King	3.25	.....	.....
.....	Mrs. Roy	3.25	.....	.....
.....	Bronze Frick	3.50	.....	.....

12-Week Varieties				
.....	Gladys Pearson	3.00	.....	.....
.....	Oak Leaf	3.00	.....	.....
.....	Muto's Crimson	3.50	.....	.....

13-Week Varieties				
.....	Br. Mistletoe	3.25	.....	.....

Quan.	Variety	Price 50 Only	Unit Price	Amount
11-Week Varieties				
.....	Aristocrat	3.25	.....	.....
.....	Helen Frick	3.00	.....	.....
.....	Rose Delight	3.50	.....	.....
.....	Edwin Seidewitz	3.00	.....	.....
.....	Thanks. Pink	3.00	.....	.....

13-Week Varieties				
.....	Pink Mistletoe	3.25	.....	.....

THIS TABLE INDICATES PRICES FOR MORE THAN 50 OF A VARIETY ON ONE SHIPMENT

50 Only	100-250 Per 100	300-450 Per 100	500-950 Per 100	1000-2450 Per 100	2500-up Per 100
\$2.75	\$5.20	\$4.95	\$4.65	\$4.40	\$4.10
3.00	5.70	5.40	5.10	4.80	4.50
3.25	6.15	5.85	5.50	5.20	4.85
3.50	6.65	6.30	5.95	5.60	5.25
4.00	7.60	7.20	6.80	6.40	6.00
4.50	8.55	8.10	7.65	7.20	6.75
5.00	9.50	9.00	8.50	8.00	7.50

SPECIAL COLLECTIONS

- A. 250 Rooted Cuttings.....\$14.25
50 each of 5 varieties.
- B. 500 Rooted Cuttings..... 25.50
50 each of 10 varieties, or
100 each of 5 varieties.

- C. 1000 Rooted Cuttings..... 48.00
50 each of 20 varieties, or
100 each of 10 varieties, or
200 each of 5 varieties.
- D. 2500 Rooted Cuttings.....112.50

- 50 each of 50 varieties, or
100 each of 25 varieties, or
250 each of 10 varieties, or
500 each of 5 varieties.

For Collections, please specify:

Shipping Date.....

Ghse. or Garden Varieties.....

Flowering Date.....

Colors.....

Types.....

Carnation Cuttings for '52-'53 Season

GENERAL LIST

F.O.B. Shipping Point. Minimum order 100 of a variety except where noted. Shipment November thru spring; state when wanted.

	Rooted Cuttings Price Per	
	100	1000
WHITE		
*Improved Olivette. New white.....	\$20.00	\$150.00
Northland. Large, fragrant white.....	12.00	100.00
Olivette. A good producer.....	10.00	90.00
Patrician. A good large white.....	10.00	90.00
*Schaefer's Peace (Res.). New white.....	20.00	175.00
White Sidney Littlefield (Res.). Pure white sport of Sidney Littlefield.....	20.00	150.00
White Sim. Pure white sport of Wm. Sim.....	15.00	125.00

LIGHT PINK

Crowley's Sim (Res.). Blush pink sport of Wm. Sim. Minimum order 250.....	—	150.00
*Gordon (Res.). New light pink.....	22.00	180.00
Light Pink Littlefield. Light pink, similar to Virginia Hercules.....	20.00	150.00
*Light Pink Northland (Res.). Flesh pink, sport of Northland.....	20.00	150.00
Netta. Popular light pink.....	15.00	125.00
Petersen's Pink Sim (Res.). Light pink.....	20.00	150.00
Princess Elizabeth. Large flowered.....	15.00	125.00
Princess Irene.....	12.00	100.00
Virginia Hercules. Large sport of Virginia.....	15.00	125.00

MEDIUM PINK

Citation. Rose pink.....	15.00	125.00
Mrs. Virginia Irwin. Medium pink.....	12.00	100.00
Rosalie (Pat.). Flowers medium to large....	15.00	125.00
*Serenade (Res.). Medium pink. Minimum order 500.....	—	150.00
Virginia Rose. Uniform production, good keeper.....	10.00	90.00

DARK PINK

*Belvedere (Res.). Rose pink.....	22.50	180.00
*Boston (Res.). Dark pink, very productive	22.00	180.00
Canup's Pride (Res.). Good stem; free flowering.....	20.00	150.00
*Fanfare (Res.). Dark pink. Minimum order 500.....	—	150.00
*Saugus Pink (Res.). Deep pink.....	22.00	180.00
Sidney Littlefield. Extra large.....	20.00	150.00
Spicy Rose. Vivid rose pink.....	20.00	150.00
Virginia Miller. Dark pink Virginia.....	12.00	100.00

CRIMSON & RED

C. W. Weld. Clean, healthy grower; good stem.....	10.00	90.00
*Durango (Res.). Crimson. Minimum order 500.....	—	150.00
Jumbo Cardinal. Improved Cardinal.....	15.00	125.00
*Kintzele's Deep Red. Minimum order 250....	—	150.00
No. 14 Crimson.....	12.00	100.00
Pimpernelle.....	15.00	125.00
Red Beauty. Scarlet, similar to Wm. Sim....	20.00	150.00
Red No. 16. Same color as King Cardinal....	12.00	100.00
*Schaefer's Red (Res.). New dark red.....	20.00	150.00
Tom Knipe (Pat.). Large, full flower.....	20.00	150.00
Topper (Res.). Rich velvety maroon.....	22.00	180.00
Wm. Sim (Pat.). Vivid red seedling.....	20.00	150.00
Wooster Scarlet. New red.....	12.00	100.00

	Rooted Cuttings Price Per	
	100	1000
SALMON PINK		
*Coral (Res.). Brilliant salmon. Large flowers	\$22.00	\$180.00
Excellence (Res.). Largest grown medium salmon.....	25.00	200.00
Janie (Res.). Lighter than Netta and larger	22.00	180.00
Salmon Virginia.....	10.00	90.00

YELLOW

*Canary Queen (Res.). New yellow.....	22.00	180.00
*Colorado Gold (Res.). Yellow. Minimum order 500.....	—	150.00
*Harvest Moon (Res.). Yellow gold. Minimum order 500.....	—	150.00
Miller's Yellow (Res.). Best yellow.....	12.00	100.00
Patten's Yellow (Res.). Clear yellow; strong stem.....	20.00	150.00

ORCHID

Orchid Weld.....	20.00	150.00
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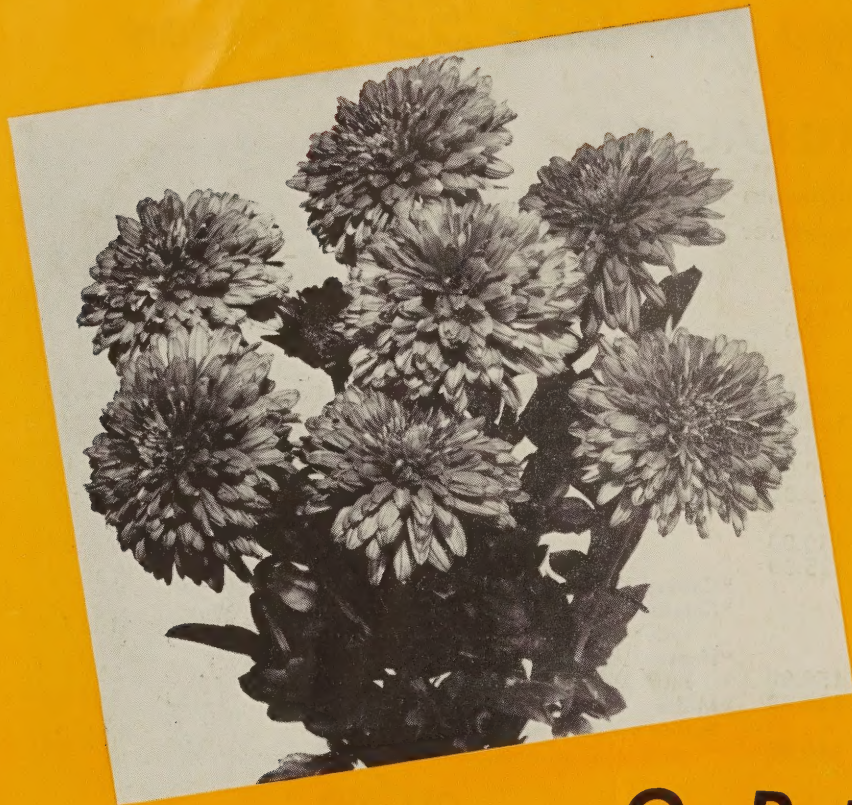
VARIEGATED

*Aura (USDA). Orange red variegated.....	15.00	125.00
Baby Bronze. Bronzy-buff with pink tint....	20.00	150.00
Barbara Brigham. Apricot with pink penciling.....	10.00	90.00
Butterscotch. Yellow-buff with pink tint....	20.00	150.00
*Desert Sun (Res.). New yellow variegated	22.00	180.00
*Sim's Gaiety. Light pink variegated. Minimum order 250.....	—	150.00
Geiger's Variegated Sim (Res.). White, red penciling.....	20.00	150.00
Harlequin. Flecked flesh pink.....	15.00	125.00
Lavender Rose. Lavender rose seedling.....	15.00	125.00
Mohawk (Res.). Yellow variegated with pink stripes.....	22.00	180.00
Mrs. E. F. Guba. Pale almond, vivid pink edges and lines.....	20.00	150.00
Pelargonium. Mottled crimson.....	15.00	125.00
*Peppermint Stick Littlefield. Pink variegated, similar to Pink Art.....	20.00	150.00
Pink Art (Res.). Pink variegated.....	20.00	150.00
Raspberry Ice. White, overlaid with pale orchid.....	20.00	150.00
Sara Jane Knipe (Pat.). Brilliant rosy magenta. Silver edge.....	20.00	150.00
Scarlet King. Sport of Pelargonium.....	15.00	125.00
*Scarlet Queen. Orange variegated.....	15.00	125.00
*Schaefer's Sophie (Res.). White, variegated pink.....	20.00	175.00
Sphinx. Crimson stripes on rose.....	15.00	125.00
Starlite. Variegated white.....	10.00	90.00
Symphony (Pat.). Mauve, purple stripes....	20.00	150.00
*Tetra-Sarah Jane (PAF). Large flowered magenta, silver edge.....	25.00	200.00
*Variegated Littlefield. Blush pink.....	20.00	150.00
Weirich's Peppermint Sim. Red and white, red penciling. Minimum order 500.....	—	150.00

*New outstanding 1952-53 introductions.

For Extra Profit Try

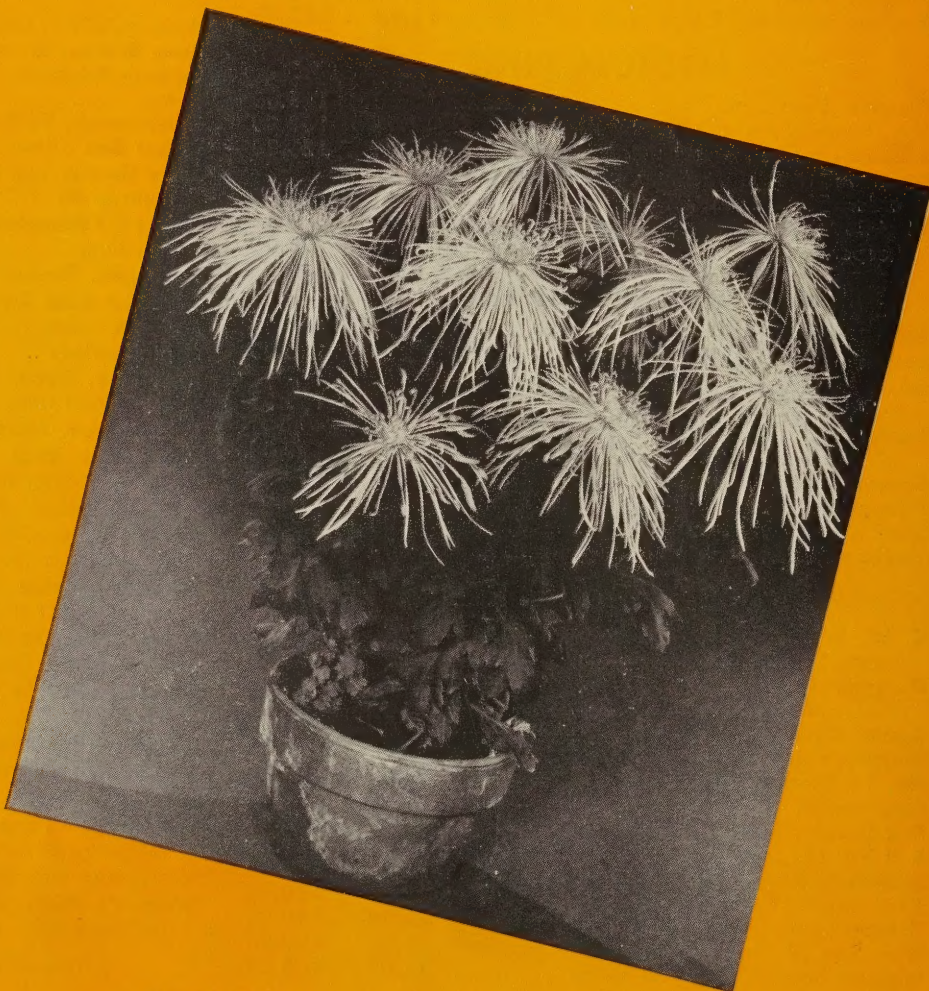
Garden Mums . .



How about the Garden varieties for Mother's Day pot plants? See page 41 for detailed instructions. Shown is *Madame Cadillac*, a new mulberry wine color flowering in late September, introduced by De Petris.

. . Or Pot Mums

Use of Mum pot plants should be a part of any off-season or year-round Mum program. Shown is *Queen's Lace*, one of the good varieties for this purpose. Instructions for flowering pot Mums out of season begin on page 40.



Geo. J. Ball
INC.